EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MICRO, AND MEDIUM ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA

MASTER OF BUSINESS ADMINISTRATION

MC MASWANGANYI

2024

EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MICRO, AND MEDIUM ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA

by

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MINI-DISSERTATION

Submitted in partial fulfilment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

In

BUSINESS ADMINISTRATION

in the

FACULTY OF MANAGEMENT AND LAW
(Turfloop Graduate School of Leadership)

at the

UNIVERSITY OF LIMPOPO

SUPERVISOR: Prof. M.M. Kanjere

2024

DECLARATION

I declare that EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MEDIUM, AND MICRO ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA (mini-dissertation) hereby submitted to the University of Limpopo, for the degree of MASTER OF BUSINESS ADMINISTRATION in BUSINESS ADMINISTRATION (degree & field of research) has not previously been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all material contained herein has been duly acknowledged.

30 August 2024

_____ _____

Maswanganyi MC (Mr) **Date**

DEDICATION

In memory of my late mom and dad, Nyanisi Mashau N'wa-Risenga Sambo-Maswanganyi and Mbhazima Joe Maswanganyi (Vholosaka). I wish you were here to witness your only son reaching greater heights. I dedicate this one to both of you.

ACKNOWLEDGEMENTS

I would like to express my unconditional gratitude to the Almighty for giving me the vision, strength, courage and resources to pursue one of the most coveted degrees in the world, the MBA. Without the abundant blessings of heaven, I would not have made it given the challenges I have gone through.

My sincere thanks go to my family for supporting me, my wonderful wife, Nyiko Maswanganyi and the wonderful children Mkateko, Katekani, Hikatekile and Nkateko Maswanganyi. Thank you for your endless compromises and for allowing me to use our family time for my studies. They were the source of my strength. I owe the success of my studies to their unconditional and selfless support.

I would also like to take this opportunity to thank my supervisor, Prof Maria Kanjere. She was my source of inspiration. She kept me motivated, energised and focused throughout the MBA programme. Her professional coaching, guidance, academic excellence and wonderful human relations have produced a future academic to say the least. Her intellectual excellence and unstinting contribution have certainly produced an erudite graduate.

To all the academics and staff of TGSL, led by Prof Sipho Mokoena, we greatly appreciate your contribution. Keep up your good work for the entire nation.

ABSTRACT

The purpose of this study was to explore the impact of load-shedding on Small, Medium and Micro Enterprises (SMMEs) operating within the City of Tshwane metropolitan area, with a view to formulating and recommending possible strategies that are likely to enhance the sustainability of these SMMEs. A qualitative study was conducted to establish the challenges faced by SMMEs due to load-shedding, to assess their current coping mechanisms during such times, and to explore their perspectives on possible strategies to mitigate the effects of load-shedding. The data was collected through semi-structured, in-depth interviews with 14 SMMEs (which were represented either by the owner, manager or business partner), two from each of the seven regions in the City of Tshwane. The findings revealed that load-shedding poses numerous challenges which threaten the sustainability of SMMEs. These challenges include capital, cash flow and profitability constraints, poor customer service and operational challenges. Despite these difficulties, the majority of SMMEs have developed various coping mechanisms to ensure business continuity, while a few have taken more drastic measures such as halting of nosiness operations. Common copying mechanisms utilised by SMMEs in this study include reliance on alternative electricity supply sources such as generators, leveraging of resources within their respective value chains and resorting to manual work. Some SMMEs have adapted and aligned their operational plans in line with the load-shedding schedules. The findings were corroborated by literature in Chapter 2. Furthermore, the study also explored SMMEs' views on future strategies to reduce the impact of load-shedding. Their views were that the South African government should subsidise their acquisition of alternative sources while prioritising to end load-shedding. Lastly, the study identified areas necessitating further research. These areas include investigating challenges contributing to the lack of government intervention in the SMME sector and finding effective and efficient coping mechanisms for SMMEs.

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LIST OF ABBREVIATIONS AND ACRONYMS

B&B – Bed and Breakfast

BRICS – Brazil, Russia, India, China, and South Africa

CITY OF TSHWANE – City of Tshwane metropolitan municipality

GDP - Gross Domestic Product

IDP - Integrated Development Plan

IEA - International Energy Agency

MMC - Member of Mayoral Committee

MoC - Memorandum of Co-Operation

NDP - National Development Plan

SADC - Southern African Development Community

SADC - ECA - Southern African Development Community - Economic Commission for Africa

SMME - Small, Micro and Medium Enterprises

SoCA - State of the Capital Address

SoNA - State of the Nation Address

TREC - Turfloop Research Ethics Committee

VUCA - Volatile, Uncertain, Complexity and Ambiguity

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

The SMMEs are of central importance for socio-economic development worldwide (Schoeman & Saunders 2018:329). While some countries have formalised their SMMEs sectors, others still rely heavily on informal enterprises (Mago & Modiba 2022:1). Regardless of their formality, SMMEs are generally recognised for their significant socio-economic contribution. In South Africa, SMMEs account for approximately 91% of registered businesses and has an important role in the economy (Naicker & Rajaram 2018:96). However, these businesses face numerous challenges, including the frequent load-shedding due to Eskom being unable to meet the growing demand for electricity (Makgopa & Mpetsheni 2022:2).

According to the South African Constitution, Part B of Schedule 4, electricity distribution is the responsibility of municipalities (South Africa 1996). The Electricity Regulation Act 4 of 2006 mandates municipalities to ensure universal access to electricity (South Africa 2006). Thus, while Eskom generates electricity, municipalities, such as the City of Tshwane metropolitan municipality in Gauteng Province, South Africa, are responsible for distribution to consumers, including households, public utilities, commercial enterprises, industry and SMMEs (South Africa 2006). In addition, municipalities are tasked with implementing load-shedding measures to make up for Eskom's generation deficits (South Africa 2013).

Globally, access to electricity is a crucial factor for the economy and a key factor for socio-economic development (Qasaymeh & van Wyk 2019:1). It is worth noticing that the South African Constitution does not explicitly guarantee the right to electricity (South Africa 1996). However, the judiciary has interpreted certain unenumerated rights as fundamental where they support explicitly stated constitutional rights (Dube & Moyo 2022:9). Section 22 of the Constitution, which guarantees freedom of occupation, has been judicially expanded to include access to electricity as a constitutional right as it plays an essential role in enabling businesses, especially

SMMEs, to operate and grow (Dube & Moyo 2022:9; Ramaphosa 2023). The Constitutional Court ruled that the supply of electricity by municipalities is a public right (South Africa 2010). Dube and Moyo (2022:3) further argue that electricity is an important municipal service that is essential in the urban environment and forms part of the duty of municipalities to create a conducive business environment.

Given the dependence of SMMEs on electricity (Ramaphosa 2023), the impact of load-shedding on these businesses is a complex issue that requires a thorough understanding to develop effective sustainable solutions (Makgopa & Mpetsheni 2022:1). The purpose of this study was therefore to explore the impact of load-shedding on SMMEs in the City of Tshwane area.

The next sections detail the framework, methods, tools and techniques used in this study, as well as the ethical considerations and measures taken to ensure the trustworthiness of the study. The study was guided by specific research objectives and questions.

1.2 RESEARCH PROBLEM

Electricity load-shedding has posed significant challenges for SMMEs globally (Schoeman & Saunders 2018:329). Between 2003 and 2005, the SMME sector in China faced sustainability issues due to load-shedding triggered by electricity shortages (Tahir, Chen, Khan, Javed, Cheema & Laraik 2020:8). Similarly, Pakistan in South Asia recently experienced load-shedding due to a supply shortage exceeding 5000 megawatts, which was necessary to prevent infrastructure collapse (Gusta 2020). South Africa, along with other Southern African Development Community (SADC) members like Zambia, is currently dealing with similar load-shedding challenges (Umar & Kunda-Wamuwi 2019:20).

The City of Tshwane acknowledges on its website that Eskom's declared load-shedding has adversely impacted the performance and reliability of its electricity supply. This was attributed to the infrastructure not being designed for consistent switching on and off (Mostert 2023). The Executive Mayor of the City of Tshwane, in

the 2023 State of the Capital Address (SoCA), underscored the devastating effects of this intermittent load-shedding (City of Tshwane 2023:3).

In Ghana, a study by Nyanzu and Adarkwah (2016:3) reported that load-shedding led to reduced productivity and efficiency among SMMEs. Makgopa and Mpetsheni (2022:1) note that load-shedding not only threatens the sustainability of SMMEs in South Africa but also hampers the country's national development trajectory. This sentiment is echoed by Schoeman and Saunders (2018:329), who highlight the severe challenges faced by South African SMMEs due to load-shedding. Further, a study in Nelson Mandela Bay indicated that load-shedding disrupts SMME operations (Makgopa & Mpetsheni 2022:5). However, Alkaldy, Albaqir and Hejazi (2019:150) argue that the extent of load-shedding's impact on South African businesses is not well documented.

The literature reviewed indicates a gap in research specifically addressing the comprehensive impact of load-shedding on SMMEs in the City of Tshwane metropolitan area. This study endeavoured to fill that knowledge gap.

1.3 LITERATURE REVIEW

SMMEs are critical contributors to economies around the world (Makgopa & Mpetsheni 2022:2). Moreover, SMMEs increasingly rely on electricity supply to power their operations (Ramaphosa 2023). This implies that electricity supply is a critical enabler of SMMEs sectors globally. However, achieving and maintaining a proper balance between demand and supply of electricity seems to be a challenge for electricity supply authorities around world (World Bank 2019). North America and the European Union experienced load-shedding during 2000-2001 (De Nooij, Koopmans & Bijvoet 2007:279). China also faced loa-shedding challenges during 2002 to 2005 (Wang, Bloyd, Hu & Tan 2010:1593). Many supply authorities experience challenges maintaining a proper balance between demand and supply (Nyanzu & Adarkwah 2016:3). Many countries in Africa, such as Ghana, Uganda, Zimbabwe and South Africa, continue to struggle in maintaining the balance between supply and demand for electricity supply (Umar & Kunda-Wamuwi 2019:21; Gusta 2020). In instances where electricity supply cannot satisfy the demand, supply authorities resort to load-shedding to safeguard the electricity infrastructure (Eskom 2022).

Although load-shedding is meant to safeguard the electricity infrastructure, it has an impact on the SMME sector (Mabugu & Inglesi-Lotz 2022:1).

This study centers around three key concepts: impact, load-shedding and SMMEs. The study assumes that a relationship exists between these concepts, thus sought to explore the impact of load-shedding on SMMEs.

For the purposes of this study, an SMME is defined as an active commercial entity, either managed by its owner or a designated manager. This includes a diverse array of businesses such as hair salons, car wash establishments, butcheries, fast-food outlets, shops, steelwork businesses, taverns, and internet cafés (Naicker & Rajaram 2018:96). Load-shedding, in this context, refers to the planned rotational disconnection of electricity supply (Makgopa & Mpetsheni 2022:2). This implies that affected areas experience temporary suspension of electricity from Eskom, potentially disrupting operations of businesses reliant solely on this energy source, unless they have access to alternative power supplies. The term 'impact' here is used to denote the consequences or effects that load-shedding might have on SMMEs (Alkaldy, Albaqir & Hejazi 2019:150).

SMMEs in South Africa regularly face the challenge of load-shedding (Schoeman & Saunders 2018:329). The impact of load-shedding on these enterprises is significant, often hindering their ability to remain operational and profitable (Nyanzu & Adarkwah 2016:3). Given the crucial role of SMMEs in the South African economy, understanding the implications of load-shedding on these entities is imperative. This study seeks to uncover this impact to inform the development of sustainable strategies to mitigate them. The prevalent load-shedding issues are largely linked to the state of electricity supply in South Africa, on which these businesses heavily rely (Ramaphosa 2023).

Detailed discussion on literature review has been provided in Chapter Two. The next discussion focused on describing the purpose of the study, including the research objectives and questions.

1.4 PURPOSE OF THE STUDY

The purpose of this study was to explore the impact of load-shedding on SMMEs operating within the City of Tshwane metropolitan area, with a view to formulating and recommending possible strategies that are likely to enhance the sustainability of the affected SMMEs.

1.4.1 Research objectives

The study is premised on three objectives:

1.4.1.1 To establish the challenges faced by SMMEs due to load-shedding.

1.4.1.2 To assess the coping mechanisms currently used by SMMEs to sustain their business operations during load-shedding periods.

1.4.1.3 To explore the perspectives of SMMEs on possible strategies to alleviate the impact of load-shedding on their businesses.

1.5 RESEARCH QUESTIONS

The study is guided by three corresponding questions:

1.5.1 What are the challenges faced by SMMEs due to load-shedding?

1.5.2 What are the coping mechanisms currently used by SMMEs to sustain their business operations during load-shedding periods?

1.5.3 What are the perspectives of SMMEs on possible strategies to alleviate the impact of load-shedding on their businesses?

1.6 RESEARCH METHODOLOGY

Research methodology refers to the research process and the kind of tools and procedures used in undertaking the study (Leedy & Ormond 2019:73). In this study, research methodology entails processes and techniques which have been followed and applied in pursuing the research objectives as stated in Chapter 1, Section 1.3.1. These processes and techniques included the research paradigm, research approach, research design, data collection techniques, target population, sampling techniques, inclusion criteria, sample sizes, as well as data analysis techniques. In respect of the research paradigm, the study has adopted an interpretivist orientation, constructivism and inductive approach. In line with this research paradigm, the study followed a qualitative approach. Furthermore, the target population consisted of over 2300 SMMEs operating across the seven regions of City of Tshwane metropolitan area, from which a sample of 14 SMMEs was purposively sampled. and data was collected using the semi-structured in-depth interviews. Moreover, critical ethical issues observed and adhered to include the ethical clearance, voluntary and informed consent, respect and dignity, protection from harm, right to privacy and confidentiality. Furthermore, the study has taken several measures with a view of ensuring its trustworthiness. These measures include transferability, confirmability and credibility. Chapter 4 of this study has been devoted to a more detailed discussion on research methodology.

1.7 DEFINITION OF CONCEPTS

In this study, five concepts were considered key and are defined below:

1.7.1 Electricity

'Electricity' is a form of energy that cannot be seen but can be felt. It is transmitted and distributed through electric wires and apparatus (Collins English Dictionary 2023). In the context of this study, electricity should be understood as that form of energy which is utilised to power various equipment, gadgets, appliances, and machinery used by SMMEs in the course of their business operations, including hair dryers for hair salons, fridges for taverns and medical practice, lighting of business premises.

1.7.2 Electricity generation

As defined in the Law Insider (2023)**,** 'electricity generation refers to the production of electricity using fuel oil and its derivatives, natural gas, renewable energy sources, or any other method'. Electricity generation is the production of electrical energy or power from coal or another source of power such as water apparatus (Collins English Dictionary 2023). However, in the context of this study, electricity generation refers to the process that Eskom undertakes to produce electricity that is used throughout the country, including by SMMEs.

1.7.3 Load-shedding

Load-shedding refers to a method of intentionally reducing the load on the electricity generation system by temporarily switching off the electricity distribution to various geographic areas (Umar & Kunda-Wamuwi 2019:21). It can also be described as a process where the electricity supply is cut from specific power transformer lines when demand nears the system's capacity (Tahir et al 2020:7). In this study's context, load-shedding refers to the deliberate action taken by Eskom and the City of Tshwane, involving the distribution of electricity to consumers based on predetermined schedules. This implies that electricity is supplied to one set of consumers while others are temporarily disconnected, with the allocation determined by geographic areas

rather than individual consumer needs. A detailed discussion of load-shedding's contextualisation in South Africa is presented in the subsequent chapter, specifically in section 2.5.

1.7.4 The impact

The term ‘impact’ refers to the influence or effect exerted on something (Cambridge Dictionary 2023). In the context of this study, ‘impact’ specifically denotes the effects or consequences that load-shedding has on the sustainability of SMMEs. A comprehensive theoretical exploration of load-shedding's impact within the SMME sector is provided in section 2.6 of Chapter Two.

1.7.5 Small, Medium and Micro Enterprise

An SMME, or Small, Medium, and Micro Enterprise, is defined as any entity, incorporated or registered under any law, primarily composed of individuals engaged in small business activities across various economic sectors, or established to promote or represent small business interests (Law Insider 2023). The definition encompasses a broad spectrum of firms, including those that are formally registered, informal, or non-VAT registered (South Africa 2008). In this study, SMMEs are interpreted as active commercial entities, either managed by their owners or appointed managers. This includes diverse establishments such as car washes, steelwork businesses, taverns, internet cafés, hair salons, restaurants, welding manufacturers and installers, carpentry and woodwork enterprises, driving schools, and professional practices in fields like dentistry, medicine, and optometry (Naicker & Rajaram 2018:96). A comprehensive theoretical discussion on SMMEs is presented in section 2.10 of the following chapter.

1.8 SIGNIFICANCE OF THE STUDY

This study aims to contribute to enhancing the business sustainability of SMMEs in the City of Tshwane metropolitan area, particularly in the context of ongoing load-shedding. The recommendations derived from this study are expected to guide and potentially empower owners and managers of SMMEs to devise sustainable strategies within their business environments. These strategies are intended to improve their resilience against the adverse impacts of load-shedding. Furthermore, the study seeks to provide empirical insights into the effects of load-shedding on SMMEs in this region. Such scientific evidence is anticipated to be a valuable resource for government policymakers and decision-makers, aiding in the development of informed strategies and policies to support the growth and sustainability of SMMEs in the face of energy challenges.

1.9 OUTLINE OF THE STUDY

The study comprised of the following five chapters:

Chapter 1: Introduction and background to the study

This chapter provided an introductory overview of the study, which included the research problem, research aim, objectives and questions, significance of the study, research methodology and definitions of key concepts.

Chapter 2: Literature review

The literature review chapter focused on exploring, analysing, and interpreting existing literature on, related, or connected to load-shedding and its impact on SMMEs.

Chapter 3: Research methodology

This chapter described all the relevant tools, methods, processes, and principles applied and followed in executing this study.

Chapter 4: Discussion of the findings

Chapter Four was devoted to the discussion of the findings.

Chapter 5: Conclusion and recommendations

Chapter five focused mainly on providing a brief conclusive overview of the study, summary of findings, limitations encountered, recommendations and conclusion.

1.10 CONCLUSION

This chapter provided introductory background into the study, outlining the founding research problem, the main purpose of the study, the supporting objectives with corresponding research questions. This chapter also expressed the significance of the study. The next chapter dealt with the in-depth review of the existing literature in the areas of load-shedding and its impact on SMMEs.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter One served as an introduction to the study, providing essential background and setting the context for the research. Chapter Two is dedicated to an extensive literature review, primarily focusing on exploring, analysing and interpreting existing theories and previous research findings pertinent to this study. This literature review spans a wide array of topics to establish a comprehensive understanding of the subject. It encompasses the global overview of electricity supply challenges, an in-depth look at the state of electricity supply in South Africa, and a detailed contextualisation of load-shedding within the country. Additionally, the review delves into the specific impact of load-shedding on the SMME sector, examining the various coping mechanisms employed by SMMEs. It also considers different perspectives on potential strategies to mitigate these challenges, the critical role of electricity supply in the sustainability of SMMEs, and the broader socio-economic significance of these enterprises.

2.2 AN OVERVIEW OF GLOBAL ELECTRICITY SUPPLY CHALLENGES

A stable and uninterrupted electricity supply is crucial for the functioning of any economy. Economic growth, rising populations, and increased industrialisation typically escalate the demand for electrical energy (Makgopa & Mpetsheni 2022:2). Despite this, many regions worldwide have experienced severe electricity shortages (Eskom 2022), often resulting in load-shedding when demand surpasses supply (Nyanzu & Adarkwah 2016:3).

2.3.1. North America and European Union

Globally, developed countries have usually maintained a reliable electricity supply, supported by significant investments in generation capacity. For instance, the electricity crisis in North America and the European Union during 2000-2001, including load-shedding in California, was eventually mitigated by substantial investments in electricity generation (De Nooij, Koopmans & Bijvoet 2007:279). This crisis notably affected the SMME sector, impeding operational continuity and growth (Umar & Kunda-Wamuwi 2019:20).

2.3.2. China

From 2002 to 2005, China faced increasing electricity demands, similar to the challenges experienced by Eskom in South Africa. Contributing factors included deficits in electricity generation, reduced rainfall affecting hydropower stations, a fragile transmission network, and increased air conditioner usage (Wang et al 2010:1593; Tahir et al 2020:7). The Chinese government's interventions included expanding electricity generation and establishing electricity purchase agreements with neighboring countries. However, the immediate solution involved load-shedding due to the time-intensive nature of these longer-term projects (Tahir et al 2020:8).

Load-shedding significantly impacted China's economy, particularly the SMME sector, forcing many businesses to close. Recognising the need for sustainable solutions, the Chinese government implemented demand-reduction measures, which proved effective in addressing up to 59% of electricity shortages during 2002-2005 (Wang et al 2010:1593). These measures included customer education, smarter appliance use, and investments in energy research and innovation (Tahir et al 2020:8).

2.3.3. Pakistan

In contrast, developing countries have struggled to match electricity generation capacity with rapid demand growth (Umar & Kunda-Wamuwi 2019:21). Pakistan, for example, has faced significant electricity deficits over the past decade, with urban areas experiencing up to 14 hours of daily load-shedding and rural areas up to 20

hours (Kessides 2013:271; Haq 2018). This shortfall has adversely affected various sectors, including healthcare, education, and business (Ousat 2016).

2.3.4. Africa and Sub-Sharan Africa

Similarly, Africa faces a substantial electricity access challenge, with over 500 million people lacking electricity (IEA 2020). Despite projections of future improvements, the continent's electricity generation capacity is unlikely to keep pace with increasing demands, leading to persistent load-shedding (Gusta 2020). Sub-Saharan Africa, for instance, has experienced regional shortages estimated at 8,247 megawatts, with countries like Zambia facing significant electricity deficits since 2015 (Umar & Kunda-Wamuwi 2019:20). South Africa, the focus of this study, is also grappling with severe electricity supply constraints.

2.3 THE STATE OF ELECTRICITY SUPPLY IN SOUTH AFRICA

The adequacy and reliability of electricity supply are universally acknowledged as vital for the development and stability of any country (United Nations Economic Commission for Africa 2018). This significance holds true in the South African context, where the state of electricity supply is a crucial factor for national progress. As illustrated in the map provided in figure 2.4.1, South Africa is located at the southern tip of the African continent. It shares borders with several countries, including Namibia, Mozambique, Lesotho, eSwatini (formerly known as Swaziland), Zimbabwe, and Botswana. This geographic positioning not only defines South Africa's physical boundaries but also influences its economic and energy relationships with these neighboring countries.

Figure 2.3.1 A map depicting the geographical shape of South Africa and its location within the African continent.

Map of South Africa credit: Peter Hermes Furian
Map of Africa credit: Geo Atlas Graphi Ogre

Source: IRP (2019)

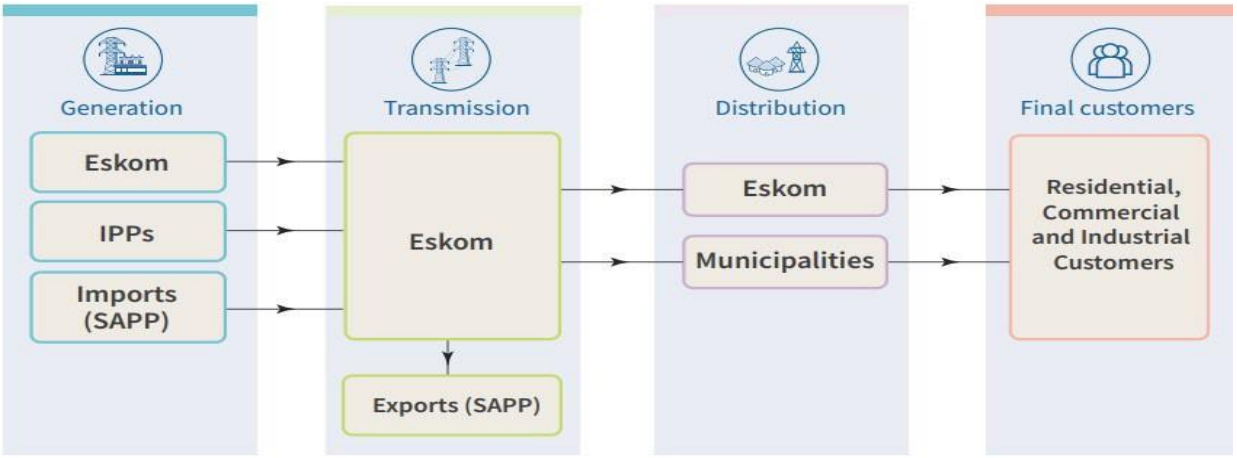
South Africa's electricity supply is the most extensive in the Sub-Saharan region, accounting for over 40% of the region's capacity. The country also has the highest rate of electrification, providing access to nearly 90% of its population (United Nations Economic Commission for Africa 2021). However, South Africa's population has seen significant growth, increasing from 51.7 million in 2011 to 62 million in 2022, a growth rate of approximately 1.8% (Statistics South Africa 2023). This increase has likely placed additional demands on the nation's electricity supply infrastructure.

As reported by Statistics South Africa (2023), the percentage of households with access to electricity nationwide has risen from 58% in 1996 to just over 90% in 2022. This trend suggests that as the population grew, reaching 62 million in 2022, the number of households with electricity access also expanded. This expansion indicates that the South African government, likely through Eskom and various municipalities, has been actively implementing electrification projects over the past decades. Consequently, it is reasonable to infer that the demand for electricity has increased alongside the expansion of access.

The 2022 census revealed that provinces such as KwaZulu Natal, Western Cape, and Limpopo recorded the highest proportions of electricity access, with 96.7%, 96.5%, and 95.5% respectively (Statistics South Africa 2023). While Gauteng Province did not have the highest proportion of electricity access, it recorded the country's largest population at 15 million during the 2022 census (Statistics South Africa 2023). Gauteng's population is particularly pertinent to this study, as the research area, the City of Tshwane municipality, is located within this province, as illustrated in figure 3.5.1 in Chapter 3.

As illustrated in Figure 2.4.2 below, South Africa's national electricity supply system is structured into four main segments: generation, transmission, distribution and end consumers. This system is predominantly overseen by Eskom, a state-owned entity responsible for the majority of the country's electricity generation and supply (South Africa 1922; Eskom 2023).

Figure 2.3.2 South African national electricity supply structure



Source: IRP (2019)

The generation segment is primarily concerned with the production of electricity. In South Africa, electricity generation sources include Eskom (contributing approximately 90% of the total supply), imports from neighboring countries like Mozambique, and local Independent Power Producers (United Nations Economic Commission for Africa 2021; Eskom 2023). The concept of generation aligns with production theories in economic sciences (Slack & Brandon-Jones 2019:375).

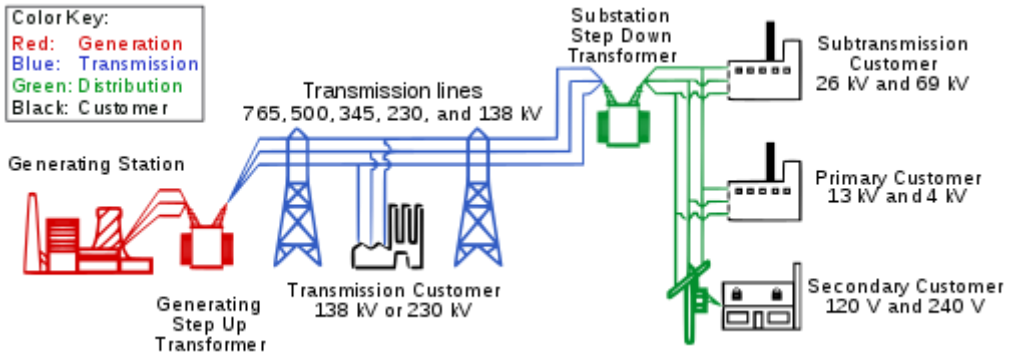
In the transmission stage, electricity is transported in bulk from generation sites to electrical substations via a network of high voltage overhead transmission lines (Eskom 2023). This process is akin to logistics or operations management within the business sciences domain (Slack & Brandon-Jones 2019:427).

The distribution segment facilitates the delivery of electricity from substations to end consumers, utilising both underground cables and overhead lines. This stage emphasises the needs of the end consumer as paramount (Eskom 2023).

Regarding supply and demand, goods and services, including electricity, are produced with the intention of consumption by end users. In South Africa, these end consumers comprise residential, commercial, and industrial customers, representing the actual demand for electricity (Eskom 2023; Slack & Brandon-Jones 2019:375).

The following diagram offers a technical overview or schematic representation of South Africa's national electricity supply structure, encapsulating the interplay between generation, transmission, distribution, and consumers. This diagram provides a more detailed visual understanding of the electricity supply arrangement as depicted in Figure 2.4.2.

Figure 2.3.3 A schematic diagram of a typical electricity supply arrangement



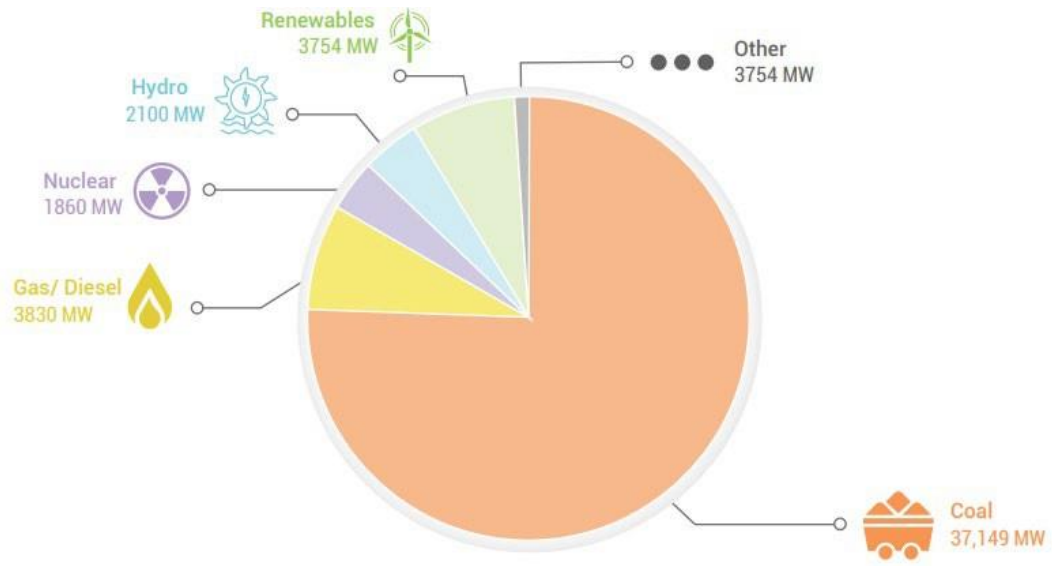
Source: Wikipedia (2023)

While Eskom predominantly controls the electricity supply ecosystem in South Africa, encompassing generation, transmission, and a portion of distribution, municipalities also play a vital role. They are constitutionally authorised to distribute electricity to end-users and currently handle about 60% of the distribution, with the remaining 40% managed by Eskom (United Nations Economic Commission for Africa 2021). However, the critical aspect, irrespective of the responsible entity, is the overall state of electricity supply in the country.

In the following discussion, the focus shifts to examining South Africa's electricity supply, particularly from the perspective of generation capacity. Understanding electricity generation capacity is crucial for this study, as it directly affects the role of electricity in the business environment and the consequent impact of load-shedding on SMMEs. The ability to generate sufficient electricity not only influences the operational efficacy of these businesses but also shapes the broader economic landscape in which they operate.

Figure 2.4.4 below shows that Eskom predominantly relies on coal for electricity generation, contributing over 37,000 MW to the national generation capacity. Additionally, Eskom operates the only nuclear power station in its fleet, the Koeberg Power Station in Cape Town, which provides 1,860 MW of capacity. Beyond coal and nuclear, Eskom also produces electricity using hydro, gas, and diesel sources, cumulatively accounting for just under 6,000 MW (Eskom 2023).

Figure 2.3.4 Installed generation capacity in megawatts (MW) (as at 2019)

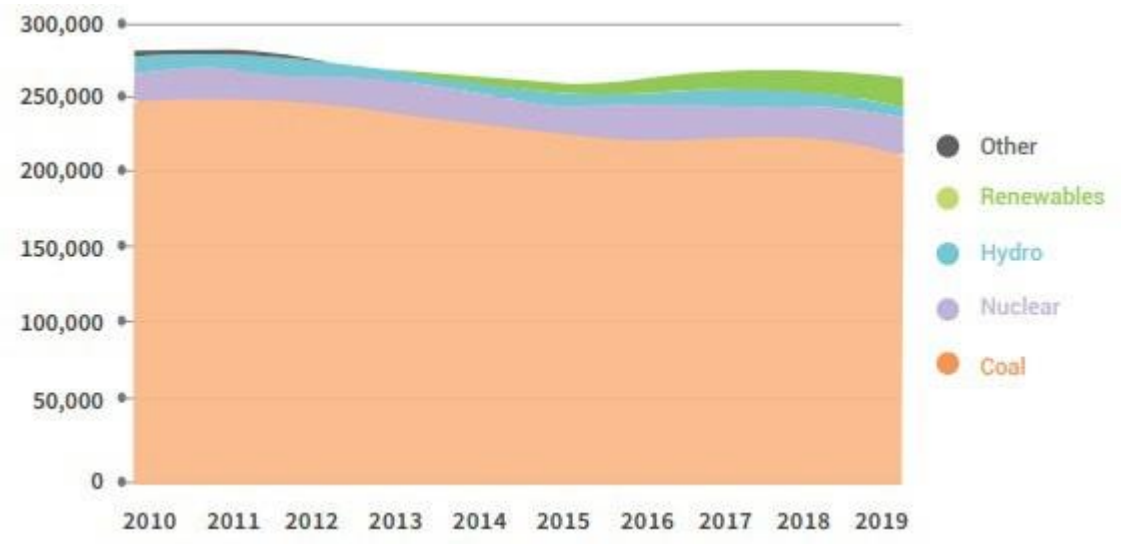


Source: IRP (2019)

Makgopa and Mpetsheni (2022:3) highlight Eskom's struggle to meet the rising demand for electricity. Specifically, the utility's generation output is insufficient to consistently serve all consumers simultaneously. Swilling (2022:11) attributes this failure to growing generation deficits over the past decade, indicating that Eskom's challenges in meeting electricity supply demands have been escalating over several years.

The importance of Eskom's electricity generation activities is underscored by the South African government, as evidenced by regular reporting from Statistics South Africa (Statistics South Africa 2021). However, the overall state of these generation activities remains a concern. Recent reports continue to show a decline in electricity generation over the past decade (Statistics South Africa 2023). The figure below provides a ten-year overview of energy generation in South Africa, illustrating the trends and challenges in meeting the nation's electricity needs.

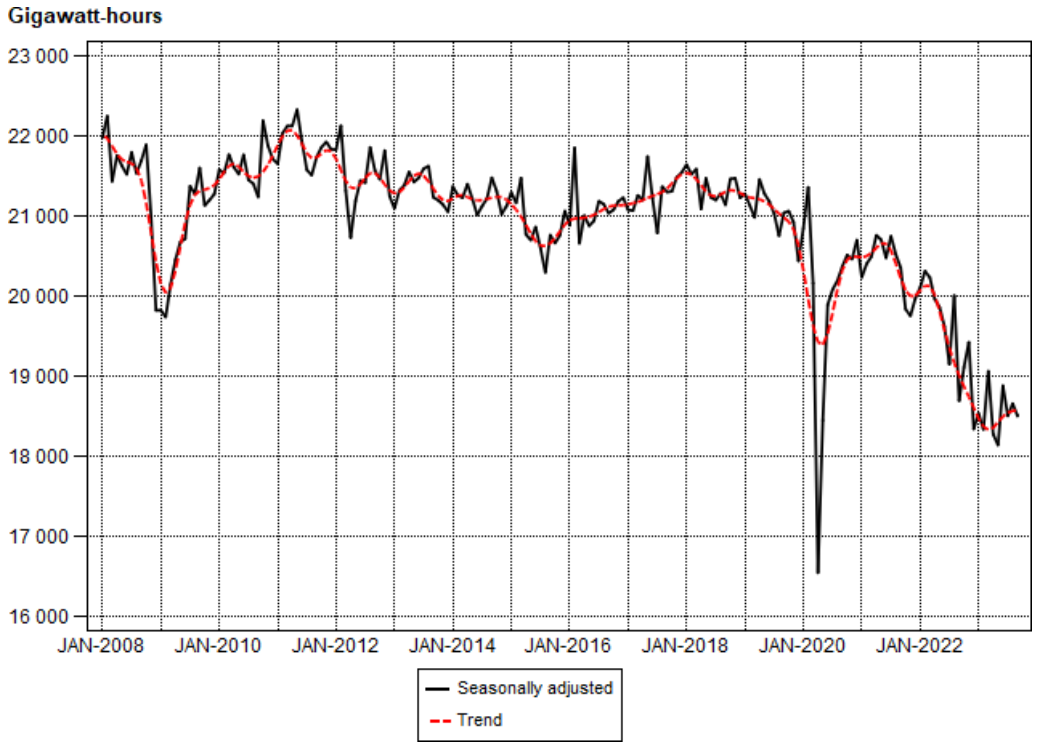
Figure 2.3.5 Electricity generation in South Africa (Megawatt per hour)



Source: EIA (2020)

The data presented in Figure 2.4.5 provides a clear graphical representation of the trend in electricity generation output in South Africa, showing a consistent decline since 2010. Notably, the generation output in 2019 was even lower than the levels recorded in 2010, indicating a significant reduction over the decade. Complementing this, Statistics South Africa (2023) conducted an analysis during the 2022 census, focusing on the national electricity generation trends since 2008. This analysis, depicted in Figure 2.4.6, offers an extended overview of the patterns in electricity generation, further illustrating the challenges faced in maintaining and increasing generation capacity over the years.

Figure 2.3.6 Electricity generation in South Africa (Gigawatt per hour)



Source: Statistics South Africa (2023)

The recent deterioration in the state of electricity supply in South Africa is largely attributed to persistent generation deficits over the past decade (Swilling 2022:11). Concurrently, there has been a significant increase in the number of households provided with electricity access (Statistics South Africa 2023). It can be argued that

this deterioration was compounded by the country's higher population growth, alongside the expansion of electricity access to additional households. This suggests that while the population and number of electrified households have grown, there has not been a commensurate enhancement in electricity generation to support these increases.

Eskom, on its website, acknowledges the heightened demand for electricity due to the increasing number of customers (Eskom 2022). The utility also emphasises the critical need to achieve and maintain an appropriate balance between electricity demand and supply. This situation indicates that a confluence of factors, including population growth and expanded access to electricity, has led to a shortage in electricity supply in South Africa. Eskom's public statements suggest an awareness of the various dynamics affecting the country's electricity supply. Despite this awareness, it appears that Eskom is compelled to implement load-shedding as a measure to manage the shortfall in electricity supply.

2.4 CONTEXTUALISING LOAD-SHEDDING IN SOUTH AFRICA

The World Bank (2019) ranked the 132 nations most affected by frequent blackouts, with South Africa coming in at number 94. Since the manifestation of electricity supply crisis around 2007, there has been projections and speculations of imminent load-shedding that would likely worsen with time if generation deficits were not addressed as a matter of urgency (Makgopa & Mpetsheni 2022:5). One may therefore deduce that load-shedding has long been recognised as a possible measure that can be implemented to alleviate the imminent impact of rising electricity demand on the national electricity grid.

A study conducted by the Council for Scientific and Industrial Research (2021), published in 2021, reveals that Eskom's power dependability is at an all-time low and forecasted that load-shedding in South Africa will worsen in the coming years. Swilling (2022:11) warns that if Eskom does not quickly handle rising load-shedding incidents, the entire national grid might collapse. According to Eskom (2022), load-shedding is necessary and critical to prevent a national grid collapse, an incident which can be

very disastrous and disruptive to the socio-economic integrity of the country and may not only be costly but take as long as two weeks to restore fully.

Load-shedding involves Eskom monitoring the balance between demand and supply of electricity at a given time, enabling prompt and scheduled intervention through switching on and off selected consumers to maintain a proper balance (Eskom 2022). In other words, load-shedding can be executed as part a planned schedule or can be applied in emergency situations such as when a generating unit at the power station has tripped. According to Eskom (2022), load-shedding can be implemented in emergency situations but would normally be for relatively shorter periods. This implies that Eskom might not have an opportunity to inform the consumers prior or even promptly during emergency situations.

However, during planned schedules, consumers are afforded an opportunity to plan around these schedules to minimise the inconveniences. As these planned schedules are available to the public, SMMEs also have reasonable access to them and may be able to organise their business operations accordingly. According to Eskom (2022), load-shedding is executed in predetermined stages, quantities, and frequencies, although there may be changes from time to time. The primary purpose of load-shedding is to ensure that electricity demand remains within or below the available supply capacity (Eskom 2022). Eskom actively monitors the balance between demand and supply, and during load-shedding conditions, systematically switches off electricity to certain consumers to reduce the load. Table 2.5.1 below provides an overview of the predetermined stages, quantities, and frequencies. For example, if the national load exceeds supply by 1,000 MW, Eskom will shed 1,000 MW from the grid, affecting consumers using that amount of electricity. Different areas are switched off at varying times, meaning some areas have power while others do not. In a Stage 1 scenario, consumers can expect power outages three times over a 4-day period, with each outage lasting a maximum of 2 hours.

Table 2.4.1. Eskom load-shedding stages

ESKOM LOAD-SHEDDING STAGES			
STAGE	QUANTITY OF NATIONAL LOAD TO BE SHED (MEGAWATTS-MW)	NUMBER OF TIMES OVER A 4-DAY PERIOD	DURATION OF LOAD-SHEDDING (HOURS)
1	1000	3	2
2	2000	6	2
3	3000	9	2
4	4000	12	2
5	5000	12	2
6	6000	12	2
7	7000	12	2
8	8000	12	2

Source: Adapted from Eskom (2022)

Eskom has established load-shedding schedules based on geographical groups, incorporating principles of equity, consistency, and administrative justice. These schedules are published on public platforms, including Eskom's website and social media. Load-shedding is targeted at geographical areas rather than specific customers, meaning that SMMEs operating within an affected area will experience outages during load-shedding events.

Load-shedding is executed at the distribution level of the national electricity grid. Eskom, responsible for 40% of the national electricity distribution, and municipalities, accountable for the remaining 60%, play key roles in this process (United Nations Economic Commission for Africa 2021). Municipalities like the City of Tshwane, a licensed electricity distributor, manage load-shedding within their jurisdictions. While some municipalities may lack the capacity for electricity distribution and thus rely on

Eskom, licensed municipalities like City of Tshwane follow load-shedding schedules in line with Eskom's guidelines.

Eskom coordinates with municipalities for load reduction, requesting specific reductions as necessary. The municipalities, in turn, implement load-shedding according to their internal schedules, complying with Eskom's requests. The City of Tshwane, for instance, publishes its load-shedding schedules daily and executes them in response to Eskom's load reduction requests. These schedules are made available to the public via various channels.

Load-shedding schedules in City of Tshwane are different from time to time (City of Tshwane 2023). The difference can be noticed between the load-shedding schedule of the 16th of November 2023, appearing in Table 2.5.2 below and that of the previous day on the 15th, depicted in Table 2.5.3.

Table 2.4.2 A typical City of Tshwane load-shedding schedule as implemented on the 16th of November 2023.

CITY OF TSHWANE LOAD-SHEDDING SCHEDULE 16 NOVEMBER 2023					
STAGE 3		STAGE 2		STAGE 3	
Period	Group	Period	Group	Period	Group
00H00 - 02H30	8,12,16	05H00 - 06H30	10,14	16H00 -18H30	16,4,8
02H00 - 04H30	9,13,1	06H00 - 08H30	11,15	18H00 - 20H30	1,5,9
04H00 - 05H30	10,14,2	08H00 - 10H30	12,16	20H00 - 22H30	2,6,10
		10H00 - 12H30	13,1	22H00 - 00H30	3,7,11
		12H00 - 14H30	14,2		
		14H00 - 16H30	5,3		

Source: Adapted from City of Tshwane X account (2023)

Table 2.4.3 A typical City of Tshwane load-shedding schedule as implemented on the 15th of November 2023.

CITY OF TSHWANE LOAD-SHEDDING SCHEDULE 15 NOVEMBER 2023			
STAGE 3		STAGE 2	
Period	Group	Period	Group
00H00 - 02H30	12,16,4	05H00 - 06H30	14,2
02H00 - 04H30	13,1,5	06H00 - 08H30	15,2
04H00 - 05H30	14,2,6	08H00 - 10H30	16,4
		10H00 - 12H30	1,5
		12H00 - 14H30	2,6
		14H00 - 16H30	3,7

Source: Adapted from City of Tshwane X account (2023)

Table 2.5.3 illustrates the load-shedding schedule on a specific date, such as the 15th of November 2023, where two stages of load-shedding, Stage 3 followed by Stage 2, were implemented. Stage 3 commenced at midnight (00H00) and continued until 05H30, after which it was reduced to Stage 2 for the remainder of the day. During these stages, various groups or customers experienced intermittent electricity supply, with groups 12, 16, and 4 being without power from 00H00 to 02H30 under Stage 3 load-shedding. This pattern of load-shedding is a national intervention, impacting various regions, including the City of Tshwane.

At the national level, the South African government, acknowledging the critical role of electricity for businesses, has committed to progressively reducing and ultimately eliminating load-shedding (Ramaphosa 2023). Several initiatives have been introduced to address this issue. In 2023, the government signed a Power Purchase Agreement to import up to 1000 megawatts of electricity from Mozambique (South African Government News Agency 2023), aligning with President Ramaphosa's goal announced in the State of the Nation Address (SoNA). This initiative is expected to

improve long-term electricity availability and positively impact all sectors, including SMMEs, without segregation.

Furthermore, at the BRICS 2023 Summit in Johannesburg, the South African government signed a Memorandum of Cooperation (MoC) with China, focusing on alleviating the load-shedding crisis (South African Government News Agency 2023). Additionally, China pledged to donate equipment worth 150 million rand, aiming to protect over 500 public facilities in South Africa from the effects of load-shedding. While these interventions are not directly targeted at SMMEs or businesses, they indirectly benefit these entities by relieving pressure on the national grid, thereby aiding establishments, including those in the City of Tshwane.

These interventions, alongside statements by President Ramaphosa, underscore the recognition of electricity supply as a crucial factor in the South African business landscape (Ramaphosa 2023). The government's efforts signal a commitment to stabilising the electricity supply, ultimately supporting the continuity and growth of the business sector, particularly SMMEs.

2.5 THE IMPACT OF LOAD-SHEDDING WITHIN THE SMALL, MEDIUM, AND MICRO ENTERPRISES' SECTOR

This study has detailed the context of load-shedding in South Africa, underscoring Eskom's inability to meet the national electricity demand and its subsequent reliance on load-shedding. This strategy has notably affected various sectors, including the South African SMME sector. Numerous studies across the country have highlighted the adverse impacts of load-shedding on SMMEs, ranging from lost income and increased operational costs to poor customer relations and diminished profits (Mabunda, Mukonza & Mudzanani 2023:11; Tembe & Hlengwa 2022:1020; Olajuyin & Mago 2022:2; Schoeman & Saunders 2018:330).

While exploring global electricity supply challenges in section 2.3, it was revealed that load-shedding is not a phenomenon unique to South Africa but is prevalent in many developing countries (Tembe & Hlengwa 2022:1020). Studies in Nigeria and Ghana similarly show that SMMEs in these regions have suffered financial losses and

operational difficulties due to load-shedding (Ado & Mangai 2015; Dunya, Chen & Appiah 2019:84). These findings suggest that South African SMMEs could potentially learn from experiences in other African countries.

At the national level, President Ramaphosa has expressed concern about load-shedding's impact on SMMEs and committed to addressing the issue (Ramaphosa 2023). Similarly, the South African Local Government Association (2023) has called for expedited action to mitigate load-shedding's detrimental effects on the SMME sector. The Executive Mayor of the City of Tshwane, in the State of the Capital Address 2023, highlighted the challenges posed by load-shedding, including damage to infrastructure and revenue losses, announcing plans to invest in core infrastructure and reduce reliance on Eskom (City of Tshwane 2023). However, the address did not specifically focus on the impact of load-shedding on SMMEs within the City of Tshwane. This study aims to explore the impact of load-shedding on SMMEs in the City of Tshwane. The subsequent section discusses various coping mechanisms employed by SMMEs to mitigate the impact of load-shedding.

2.6 COPING MECHANISMS UTILISED BY SMALL, MEDIUM, AND MICRO ENTERPRISES AMID LOAD-SHEDDING

Profit generation is a fundamental objective for business establishments (Erasmus, Strydom & Rudansky-Kloppers 2016:43). Consequently, businesses are keenly aware of and interested in mitigating any factors that might jeopardise their profitability, whether these factors are internal or external. In cases where it is not feasible to completely eliminate a detrimental factor, businesses typically seek ways to cope with it, aiming to minimise its impact on their profit-making capabilities (Junfri, Widipitra & Jung 2019:177).

In the context of South African SMMEs, particularly for the purpose of this study, load-shedding represents such a detrimental external factor. Given the established theoretical impact of load-shedding on SMMEs, this section focuses on assessing the coping mechanisms these businesses employ to alleviate its effects.

Various studies conducted across South Africa have revealed insights into the coping strategies of SMMEs. In Gqeberha, Eastern Cape Province, Olajuyin and Mago (2022:2) found that most SMMEs adopted two key coping mechanisms: 1) utilising alternative electricity supply sources such as solar panels and generators, and 2) adjusting their business operations to maintain continuity.

Contrastingly, in Collins Chabane Local Municipality, Limpopo Province, a recent study by Mabunda et al (2023:11) found that only 5% of SMMEs used alternative electricity sources, primarily due to financial constraints and limited access to the main value chain. This study recommended government subsidies for the acquisition of alternative electricity sources.

In Kwa-Zulu Natal Province, a study in Pietermaritzburg echoed similar findings, where SMMEs also relied on alternative electricity sources (Tembe & Hlengwa 2022:1020). However, Moore (2019:98) noted that the use of generators, especially in the hospitality industry, poses inconveniences such as noise and fuel fumes.

These studies collectively illustrate that while alternative electricity sources are a common coping mechanism for SMMEs facing load-shedding, the adoption of these strategies varies regionally, influenced by factors like financial capability and access to resources. In this study, Objective Two sought to assess coping mechanisms utilised by SMMEs in City of Tshwane, the outcome of which has been detailed in Chapter Four.

2.7 PERSPECTIVES ON POSSIBLE STRATEGIES OF ALLEVIATING THE IMPACT OF LOAD-SHEDDING

Having considered the impact of load-shedding and coping mechanisms in the preceding discussions, in this section the focus was on exploring various perspectives on possible strategies which are likely to alleviate the impact of load-shedding on SMME sector. Previous similar studies have shared various perspectives in the form of recommendations.

In a study that was conducted in Madina in La-Nkwantanang Municipality, located in the Greater Accra region of Ghana, Dunya et al (2019:84) shared various perspectives in their recommendations. In that study, they are of the view that the Ghanaian government should intervene through capital investments into solar power infrastructure development. The intention being to develop alternative electricity supply source that may relieve pressure on the existing generation plants and ultimately end load-shedding. Another perspective was for the government to introduce relief packages for SMMEs, including subsidising them on the costs of fuel for running generators. Moreover, they also recommended that the country's electricity supply entity, Volta River Authority, conduct research and development on other renewable energy sources such as wind and thermal energy technologies (Dunya et al 2019:84).

In a recent study conducted by Mabunda et al (2023:17) within Collins Chabane Local Municipality, several perspectives emerged. They recommended that every SMME should have an alternative electricity supply source and the South African government should introduce subsidies for the acquisition. They are also of the view that government should encourage the participation of SMMEs in renewable energy generation through appropriate funding. Engineering News (2019) firmly supports the idea of renewable energy generation. They also recommended that the government should consider granting the generation license to the municipality (Mabunda et al 2023:17). Another perspective was aimed at SMMEs, recommending the use of gas, particularly for restaurants. However, Lenferna (2021) cautions about the risks associated with the use of gas.

In their study which they conducted in Pietermaritzburg in the Kwa-Zulu Natal Province of South Africa, Tembe and Hlengwa (2022:1020) also shared their perspectives, this time in the context of SMMEs (B&B's and guesthouses) within that province's hospitality industry. Their perspectives include a recommendation that SMMEs should acquire alternative sources of electricity, such as solar panels, gas lamps, generators, back-up battery storage, charcoal, and firewood. They also advise SMMEs to acquire insurance to enhance their sustainability and resilience. Another perspective is for the South African government to address load-shedding by allowing flexible participation in the electricity generation sector, instead of perpetuating the monopolistic stance in

favour of Eskom. The perspectives on possible strategies in the preceding discussion strongly suggest that electricity has a critical role to play within the SMME sector.

2.8 THE ROLE OF ELECTRICITY SUPPLY IN SMALL, MEDIUM, AND MICRO ENTERPRISES' SECTOR

Electricity supply has become a critical enabler of business enterprises worldwide, largely influencing their sustainability, competitiveness, or overall day-to-day operations (Nyanzu & Adarkwah 2016:3). For example, a car wash establishment requires electricity to power its apparatus such as hoovers, pressure water pumps, and washing bays. An internet café requires electricity to power up the computers, printers, and scanners. A butchery would not exist without a reliable electricity supply. Fast food outlets also rely on electricity for their operations. The South African government has also acknowledged the critical role of electricity supply in the SMME sector and expressed its intention to intervene in the issue of load-shedding (Naicker & Rajaram 2018:94).

During the SoNA 2023, Ramaphosa (2023) emphasised the importance of electricity supply, saying that without it, companies cannot expand, factories cannot produce, farmers cannot water their crops, and essential services like water delivery and waste disposal are disrupted. As a result, the inability to keep food fresh at home or in stores, as well as the regular disruption of water service, the ineffectiveness of traffic signals, and the darkness of the streets at night, are all consequences of the lack of electricity supply. This was confirmed by Mabunda et al (2023:11), in a study conducted in Collins Chabane Local Municipality, where they found that SMMEs relied heavily on electricity supply, to the extent that during load-shedding, 95% of them could not operate as they had no alternative electricity supply or back-ups. A reliable, secure, and dependable electricity supply is essential for the progressive and consistent development of the SMME sector (Mabugu & Inglesi-Lotz 2022:1).

The perspectives that electricity supply is critical in the SMME sector is not only a South African phenomenon. Other studies in the African continent shared similar perspectives. In a similar study conducted in Senegal, which focused on investigating the impact of electricity supply interruptions on SMMEs' sustainability, it was found

that electricity supply interruptions had severely impacted the sustainability of SMMEs, except for those which resorted to using generators as a mitigating measure (Cissokho 2019:6) The study concluded that 1) more reliable and adequate electricity supply is needed to enhance the sustainability of SMMEs, 2) a reliable electricity supply in necessary to attract investment as it makes the business environment more attractive and conducive, and 3) reliable electricity supply advances economic development in many respects. In response to the preceding findings and conclusions, the study then recommended a need for instituting critical structural reforms to address electricity supply challenges (Cissokho 2019:7).

Dunya et al (2019:84) also confirm that SMMEs in Ghana are solely reliant on electricity supply, without which it has proved to be difficult for them to survive. One may thus argue that it is vital that SMMEs have reliable electricity supply due to their socio-economic significance.

2.9 SOCIO-ECONOMIC SIGNIFICANCE OF SMALL, MEDIUM, AND MICRO ENTERPRISES

SMMEs exist in many countries around the world and are recognised for their socio-economic significance. Moreover, the expansion of SMMEs is seen as potentially significant for worldwide job creation, entrepreneurship promotion, and economic change (Lozano-Reina & Sánchez Marn 2019:68). According to Naicker and Rajaram (2018:95), SMMEs are often regarded as one of the most effective tools for promoting national socio-economic priorities. The socio-economic significance of SMMEs generally differs from country to country. In the following discussion, the study has provided various perspectives on the socio-economic significance of SMMEs.

2.9.1 United Nations Economic Commission for Africa (UN – ECA)

The United Nations, through its dedicated support structures and organs such as the Economic Commission for Africa, appears to have embraced the role of SMMEs in its economic development agenda. During the opening of a joint SADC-ECA Ad hoc Expert Group Meeting on the ‘Role of Small and Medium Enterprises in the Industrialisation Process in Southern Africa’, held in September 2018 in Pointe aux

Piments, Mauritius, the Minister of Business, Enterprise and Cooperatives in Mauritius was unambiguous in asserting that SADC must be deliberate and intentional in developing comprehensive framework and systems that would enable SMMEs in aiding the region towards meaningful socio-economic development. Additionally, the Minister emphasised that SADC should take this action if SMMEs are regarded critical in the region and alluded to areas of critical importance in enabling SMMEs, including the business legislative framework, dedicated support structures and systems, as well as enabling technological and innovative activities (United Nations Economic Commission for Africa 2018).

Also speaking during a joint SADC-ECA Ad hoc Expert Group Meeting held in Mauritius, the Economic Commission for Africa's Regional Director for Southern Africa emphasised that Africa may not realise meaningful socio-economic development and structural transformation without the contribution of SMMEs (United Nations Economic Commission for Africa 2018). The Director: SADC Policy, Planning and Resource Mobilisation also revealed that over 90% of businesses and nearly 60% of job creations in Southern Africa are contributed by SMMEs. He further added that it would be ignorant not to acknowledge the role played by SMMEs as engines of socio-economic development in the Southern African region and confirmed that SMMEs are central to SADC's Industrialisation Strategy (United Nations Economic Commission for Africa 2018).

2.9.2 Southern African Development Community (SADC)

Recently, the SADC community appeared to be acknowledging that SMMEs are critical in advancing the socio-economic development of the region. In 2015, SADC adopted the SADC Industrial Strategy and Roadmap, a founding and comprehensive industrial development visionary framework representing the region's commitment towards industrialisation and economic development. The SADC Member States acknowledged that the objectives of the SADC Industrial Strategy and Roadmap may not be realised without the contribution of SMMEs. This acknowledgement has led to the development of the draft SADC SMME Strategy. The Member States recognised the significance of developing the SMME Strategy with a view of enhancing their (SMMEs) contribution at a broader economic level (Southern African Development

Community 2023).

Since the adoption of the SADC Industrial Strategy and Roadmap, SADC has embarked on several endeavours to develop and formalise structures and systems meant to embrace SMMEs towards the regional economic and industrial development. Several engagements and commitments have been made in pursuance of developing, supporting, and advancing the SMMEs in the SADC region. A draft SADC SMME Strategy has been developed and currently undergoing consultation with various stakeholders (Southern African Development Community 2023).

During a meeting of SADC Ministers held in July 2022 in the Capital of Malawi, Lilongwe, it was resolved that a framework that would facilitate and elevate the role of SMMEs towards the SADC's industrialisation and economic development initiatives must be developed. The recent consultative workshop was held during the 3rd to the 06th of October 2023 in the Zambian Capital, Lusaka (Southern African Development Community 2023). One of the main issues discussed during this workshop was to solicit and explore inputs on the SADC SMME Strategy.

When the SADC leaders met for the 40th Ordinary Summit in Maputo, Mozambique in 2020, they approved two critical strategic plans: the SADC Regional Indicative Strategic Development Plan (RISDP) 2020 – 2023 and the SADC Vision 2050. Chief amongst the strategic priority areas contained in the two documents relate to socio-economic development of the SADC region, with Pillar I dedicated to 'Industrial Development and Market Integration', and Pillar II focusing on 'Social and Human Development' (Southern African Development Community 2022). The attitude and perspectives of the SADC leaders on the role and significance of SMMEs on socio-economic development were evident in the context of the strategic Pillars I and II.

2.9.3 Brazil, Russia, India, China, and South Africa (BRICS)

The BRICS is a multinational organisation established with an intention to advance the mutual social, political, and economic interests of its founding member countries, including Brazil, Russie, India, China, and South Africa. This organisation is increasingly becoming a serious powerhouse in the global economy and politics

(Meyer & Meyer 2017:432). In the discussion to follow, it is apparent that SMMEs are regarded instrumental in in advancing the economic interests of the BRICS nations.

2.9.3.1 Brazil

The Brazilian government has long acknowledged the significance of their SMMEs in strengthening the national socio-economic interests (Boks & Mazenda 2023:108). Since the late 1990s, there have been several interventions aimed at fast-tracking national socio-economic developments. At the time the government deemed it necessary and appropriate to provide an enabling environment through legislation and policies. The *arranjos productivos locais*, which largely concentrated on capacitating the SMMEs, was one of the critical policy interventions by the Brazilian government (Boks & Mazenda 2023:108).

In 1990, the government established a state institution which was referred to as the Brazilian Micro and Small Business Support Service (SEBRAE). This state institution was mandated to encourage, facilitate, and strengthen economic development priorities, the initiative which gave more emphasis on the SMMEs (Gonçalves, Cardoso, de Carvalho, de Carvalho & de Fátima Stankowitz 2017:327). Moreover, over the years SMMEs in Brazil progressively developed to the extent that by 2016, they reached a total of twelve million, accounting for nearly 98% of formal business in that country (Gonçalves et al 2017:327). These figures are a revelation that SMMEs constitute a critical player in the socio-economic context of Brazil.

2.9.3.2 Russia

As with Brazil, the SMMEs sector in Russia is regarded as backbone of the economy, having contributed about 20% of the national GDP in 2015. Moreover, SMMEs are a

source of job creation, employing over 18 million individuals across all the 5.7 million establishments (Pinkovetskaia, Nikitina & Gromova 2018:178). Seemingly realising the contribution of SMMEs towards socio-economic wellbeing of the country, the Russian government introduced several interventions to leverage their potential.

These interventions included the establishment of the Federal Corporation for SMMEs development as well as state-backed funding, market facilitation, legal support and enabling capital investment (Kiseleva, Shanin, Ashkhotov, Akindeev & Bozieva 2018:354). According to Pinkovetskaia et al (2018:178), the primary intention of the government was to accelerate the contribution of SMMEs beyond 40% of the GDP by 2023. With the aforesaid interventions and the underlying government intentions, one may deduce that SMMEs in Russia have made a significant impact towards the national socio-economic development initiatives.

2.9.3.3 India

India's SMMEs sector is one of the largest in the world, boasting the highest number of SMME establishments than any other country globally. Although SMMEs provide a wide variety of services, they seem to dominate the manufacturing sector where they account for over 5000 products (Pawar & Sangvikar 2019:53). Despite its sheer size, India's SMMEs sector continues to grow at a much faster rate, with many SMME establishments participating in the exports of over one and half million goods and services worldwide (Sheela & Raju 2017:2).

Despite the impressive growth and size, the SMME sector in India had previously faced several challenges, some of which impacted their growth and sustainability. Such challenges included the unavailability of supportive infrastructure, lack of knowledge and skills as well as capital constraints (Sheela & Raju 2017:2). However, considering the global position of India in respect of SMMEs, one may argue that India was able to develop, protect and promote its SMME sector to greater excellence.

2.9.3.4 China

As far as SMMEs are concerned, China is amongst the countries with the largest concentration of SMMEs after India (Pawar & Sangvikar 2019:53). In China, SMMEs are commended for their contribution to job creation, employing about 75% of the national workforce (Ma, Liu & Gao 2021:33). The Chinese government has also introduced several critical interventions aimed at promoting, developing and protecting their SMMEs sector. These interventions include adoption of favourable policies, reduction of government bureaucracies and enabling fair competition (Wonglimpiyarat 2015: 296).

The government has also strengthened its relationship with the private sector, an intervention which saw the banking industry in Beijing providing favourable lending terms and conditions for the SMMEs (Wang et al 2015: 397). The Chinese government further accelerated its efforts to support the SMME sector through the establishment of the state institution known as the Chinese State Council. This state institution was successful in its objectives, where in 2015 was able to put together a dedicated fund of about $9 billion US dollars and introduced tax concession, collectively constituting government endeavours to support the SMME sector (Wonglimpiyarat 2015: 296). In the light of all these interventions, it may be deduced that the socio-economic role of SMMEs should not be underestimated.

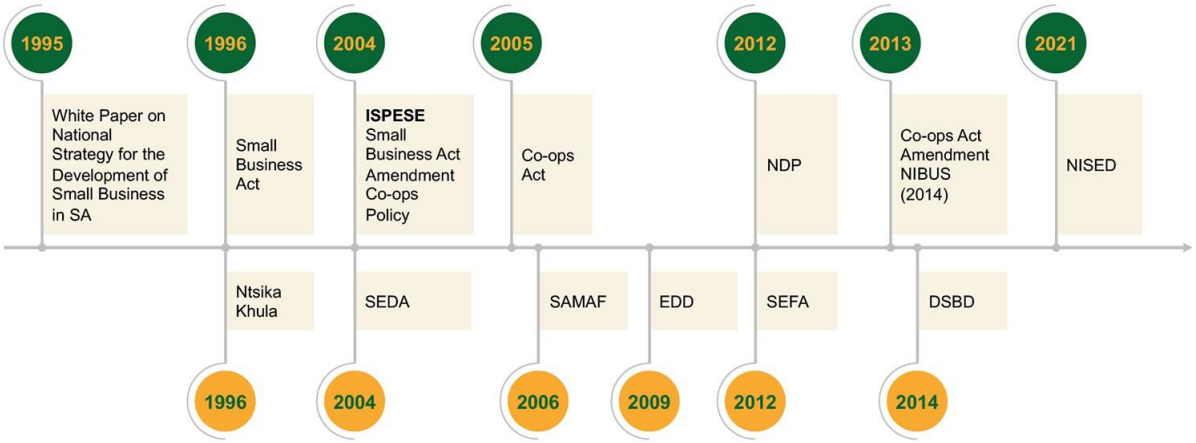
Although China accounts for the second largest economy in the world after the United States of America, with its SMME sector as a major contributor, the country's business environment is seemingly not immune to challenges. One may further argue that government interventions alluded to above were a response to prevailing challenges SMMEs were facing at the time, including lack of funding, dominance of state-owned enterprises and unfavourable tax regime (Pawar & Sangvikar 2019:53). According to Tahir et al (2020:8), the SMME sector in China had also faced load-shedding challenges in the past.

2.9.3.5 South Africa

In South Africa, the SMMEs have long been recognised as key players within the economy, significantly contributing to the national fiscus, entrepreneurship, combating unemployment and general social upliftment (Mabunda et al 2023:1). SMMEs have been recognised as an important factor in promoting equitable growth as well as national development (Naicker & Rajaram 2018:96). Hosting over 2 165 363 SMMEs, South Africa boasts the largest SMME sector in the SADC region, whereby 667 523 are classified formal and approximately 1 497 840 being informal (Statistics South Africa 2021).

Historically, during the apartheid era, legislation, policies, and practices in South Africa were not favourable to the SMME sector and this resulted in what can be termed a calculated and deliberate exclusion of majority of black South Africans who would have otherwise relied on SMMEs for their socio-economic upliftment (Naicker & Rajaram 2018:97). However, since the inception of democracy, the country was then operating under the command and within the ambits of the Constitution, which expressly required the South African parliament and its government arm to redress the injustices of the past through legislative and other measures (South Africa 1996).

Since the constitutional dispensation, there have been several government interventions meant to transform the SMME ecosystem, largely through dedicated legislation and supportive structures. The figure below provides an overview of these interventions.



Source: SEDA (2023)

Figure 2.9.3.5.1 An overview of the dedicated legislation and supportive structures in the SMME ecosystem over the past 20-year period.

As early as 1995, the South African government introduced the 'White Paper on National Strategy for the Development of Small Businesses in South Africa'. The White Paper provides for the comprehensive and fundamental framework aimed at developing and promoting SMMEs in South Africa. At its core, this White Paper emphasises the importance of stimulating the SMME sector as part of the overall national strategy to propel the country's economy (South Africa 1995).

In 1996, The National Small Business Act 102 of 1996 (National Small Business Act) was promulgated but came into force the following year in June 1997. This piece of legislation sought to:

1) 'Provide for the establishment of the National Small Business Council and the Ntsika Enterprise Promotion Agency; and
2) Provide guidelines for the organs of state in order to promote small business in the Republic; and
3) Provide for matters incidental thereto' (South Africa 1996).

It may be argued that the National Small Business Act was the first piece of legislation through which the first democratic government expressed its perspectives on the socio-economic importance of SMMEs in the South African context. About eight years into implementation, in 2004, the National Small Business Act was amended,

seemingly to incorporate the latest developments and probably also the lessons learned during the eight years of implementation. One of the probably most critical improvements which came with the amendments was the establishment of The Small Enterprise Development Agency (SEDA) (South Africa 2023). The SEDA was established as a state agency under the Department of Small Business Development in the Republic of South Africa. Its founding mission has been 'To promote entrepreneurship and facilitate the development of small enterprises by providing customised business support services that result in business growth and sustainability in collaboration with other role players in the ecosystem' (South Africa 2023).

While the amendment of the National Small Business Act was underway, several other legislations were also being processed. It would seem the South African government was determined to institute comprehensive transformational measures within the SMME sector. In 2005, another legislation was introduced, the Co-operatives Act 14 of 2005. This piece of legislation was intended to:

1) 'ensure that international co-operatives principles are recognised and implemented in in the Republic of South Africa;
2) enable co-operatives to register and acquire a legal status separate from their members; and
3) facilitate the provision of targeted support for emerging co-operatives, particularly those owned by women and black people' (South Africa 1996).

According to Page and Söderbom (2015:44), these legislative interventions are testament to the government's acknowledgement that genuine socio-economic development requires vibrant and sustainable SMME sector. This implies that legislation and policies communicate or reflect the government's perspectives and intention on the significance of SMMEs. Reflecting on the progress made thus far, it would seem the introduction of enabling legislations and policies have been favourable to the South African SMME sector, having grown significantly in respect of the number of SMMEs recently.

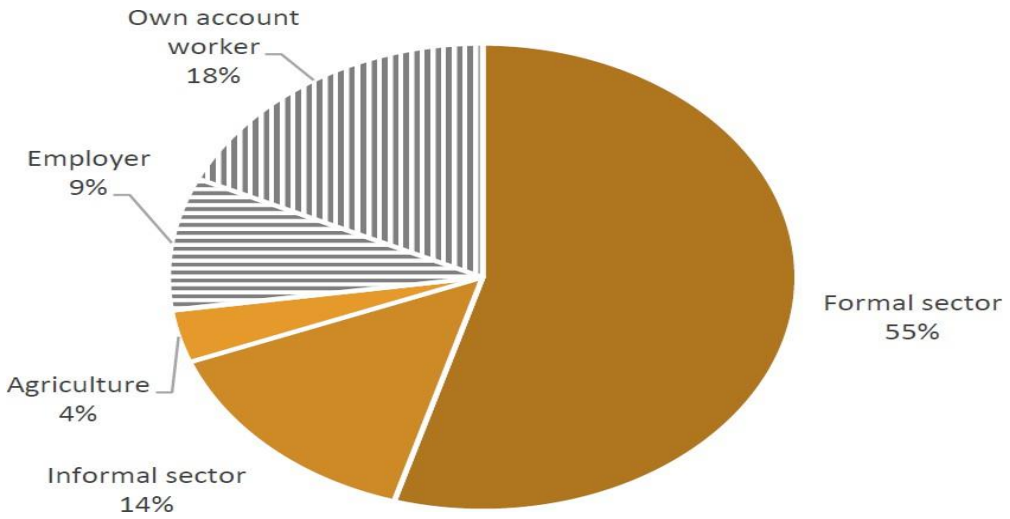
The profile of SMMEs appearing in Table 2.9.3.5.1 below shows 2 2683 602 as a total national number of SMMEs as at the end of quarter three (Q3) of 2022. When compared to (Q3) of 2021, this is a significant increase with about 148 000 additional SMMEs recorded.

Table 2.9.3.5.1 Profile on the number of SMMEs in South Africa.

KEY INDICATORS	2021Q3	2022Q2	2022Q3	q-o-q change	y-o-y change
Number of SMMEs	2 404 564	2 535 238	2 683 602	5.9%	11.6%
Number of formal SMMEs	677 786	680 830	792 838	16.5%	17.0%
Number of informal SMMEs	1 641 859	1 777 887	1 791 317	0.8%	9.1%
Number jobs provided	9 758 313	9 310 816	n/a	n/a	n/a
% operating in trade & accommodation	38.1%	39.5%	39.2%	-0.4% pts	1% pts
% operating in community services	13.5%	13.5%	14.6%	1.2% pts	1.2% pts
% operating in construction	13.1%	14.4%	14.4%	0% pts	1.3% pts
% operating in fin. & business services	16.0%	13.8%	12.1%	-1.7% pts	-3.9% pts
% black-owned formal SMMEs	73.6%	75.5%	75.7%	0.2% pts	2.1% pts
% contribution of SMEs* to turnover of all enterprises#	-55.5%	38.3%	36.1%	-2.1% pts	91.7% pts

Source: SEDA (2023)

In South Africa, SMMEs provide the highest number of jobs than the public service and big corporates combined (Naicker & Rajaram 2018: 95). In terms of the figures recorded during the second quarter (Q2) of 2022, SMMEs claimed 9.31 million individual jobs, 73% of which are individuals hired by SMMEs, whereas approximately 27% is constituted by owners working in their businesses. Considering these figures, it is apparent that SMMEs command a significant socio-economic role in South Africa. Figure 2.9.3.5.2 and Table 2.9.3.5.2 below shows a graphical presentation of employment provided by SMMEs as recorded in the second quarter (Q2) of 2022.



Source: SEDA (2023)

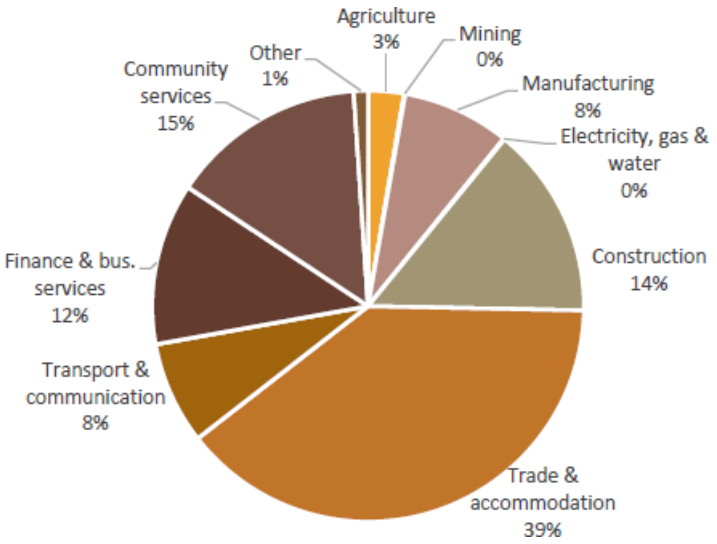
Figure 2.9.3.5.2 Profile on employment provided by SMMEs in South Africa

Table 2.9.3.5.2 Quantities of jobs provided by SMMEs in South Africa.

	2021Q3		2022Q2		2022Q3		Quarterly change		Yearly change	
	Number	Distrib.	Number	Distrib.	Number	Distrib.	Number	%	Number	%
Formal sector	4 575 128	46.9%	5 078 663	54.5%	n/a	n/a	n/a	n/a	n/a	n/a
Informal sector	2 134 474	21.9%	1 353 259	14.5%	n/a	n/a	n/a	n/a	n/a	n/a
Agriculture	631 057	6.5%	338 555	3.6%	n/a	n/a	n/a	n/a	n/a	n/a
Private households	13 091	0.1%	5 101	0.1%	n/a	n/a	n/a	n/a	n/a	n/a
Provided to others	**7 353 749**	**75.4%**	**6 775 578**	**72.8%**	**n/a**	**n/a**	n/a	n/a	n/a	n/a
*% Female**		*36.3%*		*38.4%*		n/a	n/a	n/a	n/a	n/a
Employer	866 747	8.9%	853 917	9.2%	n/a	n/a	n/a	n/a	n/a	n/a
Own account worker	1 537 817	15.8%	1 681 321	18.1%	n/a	n/a	n/a	n/a	n/a	n/a
Total	**9 758 313**	**100.0%**	**9 310 816**	**100.0%**	n/a	n/a	n/a	n/a	n/a	n/a

Source: SEDA (2023)

The government instituted legislative reforms have seemly enabled SMMEs to participate in various sectors of the economy, although some industries have no presence of SMMEs to date. Figure 2.9.3.5.3 provides a graphical overview of SMMEs' presence in the South African economy as recorded during Q3 of 2022.



Source: SEDA (2023)

Figure 2.9.3.5.3 Graphical overview of SMMEs' presence in the South African economy by industry.

It is apparent from the preceding graphical presentation that the highest number of SMMEs in South Arica operate within the Trade and Communication industry, followed by Community Services at 15% and Construction at 14%. Of note, there are no SMMEs operating in the Mining industry, nor does any exist within the Electricity, Gas and Water industry. The following table provides actual quantities of SMMEs per industry, in expression of the preceding graphical overview.

Table 2.9.3.5.3 Quantities of SMMEs per industry.

Industry	2021Q3		2022Q2		2022Q3		Quarterly change		Yearly change	
	Number	Distrib.	Number	Distrib.	Number	Distrib.	Number	%	Number	%
Agriculture	63 888	2.7%	56 990	2.2%	71 824	2.7%	14 834	26.0%	7 936	12.4%
Mining	0	0.0%	2 233	0.1%	2 365	0.1%	132	5.9%	2 365	n/a
Manufacturing	198 274	8.2%	218 136	8.6%	216 255	8.1%	-1 882	-0.9%	17 981	9.1%
Electricity, gas & water	2 353	0.1%	4 480	0.2%	1 961	0.1%	-2 519	-56.2%	-392	-16.6%
Construction	315 909	13.1%	365 186	14.4%	386 910	14.4%	21 724	5.9%	71 001	22.5%
Trade & accommodation	917 240	38.1%	1 002 491	39.5%	1 050 996	39.2%	48 505	4.8%	133 755	14.6%
Transport & communication	177 332	7.4%	175 020	6.9%	206 162	7.7%	31 142	17.8%	28 830	16.3%
Finance & bus. services	385 111	16.0%	349 855	13.8%	325 771	12.1%	-24 084	-6.9%	-59 340	-15.4%
Community services	323 426	13.5%	341 316	13.5%	392 701	14.6%	51 386	15.1%	69 275	21.4%
Other	21 032	0.9%	19 532	0.8%	28 658	1.1%	9 126	46.7%	7 626	36.3%
Total	2 404 564	100.0%	2 535 238	100.0%	2 683 602	100.0%	148 364	5.9%	279 038	11.6%

Source: SEDA (2023)

When delivering the SoNA 2023, Ramaphosa (2023) announced several government plans which are aimed at strengthening and supporting SMMEs. Some of these plans include finalisation of amendments to the Business Act 71 of 1991, providing funding to about 90 000 entrepreneurs to the value of approximately R1.4 billion as well as the establishment of a dedicated fund of about R10 billion to support SMMEs (Ramaphosa 2023). In the premise, it may be deduced that the South African government undoubtedly regards their SMME sector as a vital player in the country's socio-economic environment.

As the SoNA commitments are high level undertakings, there are no specific details on the processes and procedures provided yet. Even without details, the SoNA commitments command significant importance and provide a framework for a national discourse, within which all levels of government should operate. This implies that City of Tshwane is constitutionally bound to align its policies, strategies, and plans with the SoNA commitments, particularly as they relate to SMMEs.

2.9.4 Small, medium, and micro enterprises in City of Tshwane

City of Tshwane has long realised the socio-economic significance of SMMEs. Back in 2011, the City of Tshwane approved a policy focusing on SMMEs, The City of Tshwane Informal Trading Policy. According to City of Tshwane (2015), the aim with this policy is to 'Develop the SMME sector and its participants into a commercially viable and dynamic economic sector, which contributes to the economic growth of the city and the quality of life of its citizens in a sustainable manner'. As part of the monitoring and evaluation measures, several dedicated Key Performance Areas (KPA) have been embedded into this policy. The KPA 2.2 focuses on 'Facilitating shared economic growth through SMME and co-operatives development, skills development and job creation' (City of Tshwane 2015).

City of Tshwane has established a dedicated department encompassing SMMEs known as Economic Development and Spatial Planning Department. The Executive Mayor of City of Tshwane has appointed a member of his mayoral committee (MMC) to oversee this department (City of Tshwane 2023). In terms of the organisational structure, this department is headed by the Group Head, who is a high-ranking official

reporting directly to the City Manager (City of Tshwane 2023). Considering these institutional arrangements in place, it is compelling to deduce that City of Tshwane strongly supports SMMEs.

In a media statement dated 13 November 2023, the MMC for Economic Development and Spatial Planning Department announced plans for City of Tshwane to host Entrepreneurship Day as part of Entrepreneurship Month (City of Tshwane 2023). As part of this media statement, the MMC reiterated the significance of SMMEs as a driver for socio-economic development. Because of the socio-economic significance of SMMEs, City of Tshwane has leveraged existing skills and expertise within the SMME sector through partnership with other entities. For example, City of Tshwane has strengthened its partnership with SEDA with an aim of strengthening the support and developing of SMMEs within its jurisdiction. Moreover, City of Tshwane has partnered with an entity called Start-up Tribe, together they collectively established the Virtual Entrepreneurship Academy. This Academy has been live since the 14th of April 2023 and assisted many aspiring entrepreneurs since its launch (City of Tshwane 2023).

During the budget speech held in May 2023, the MMC for Finance reported that it was evident that residents and business owners are not impressed with City of Tshwane's ability to manage electricity supply provision, particularly load-shedding (City of Tshwane 2023). This report comes after the Executive Mayor of City of Tshwane did not make mention of SMMEs during his 2023 SoCA, although he spent considerable effort underscoring load-shedding, largely focusing on its adverse impact on City of Tshwane. However, according to Mago and Modiba (2022:1), SMMEs in the whole of South Africa are experiencing sustainability constraints due to load-shedding. This implies that even though the Executive Mayor of City of Tshwane was silent in respect of SMMEs in City of Tshwane, it is highly probable that load-shedding does have a considerable impact on them. In Chapter Three, this study explored perspectives from the sampled SMMEs impacted by load-shedding and findings have been presented and discussed in detail in Chapter Four.

2.10 CONCLUSION

In the preceding discussions, it was apparent that electricity supply challenges were not exclusive to South Africa but prevalent in many parts of the word. Many governments around the world resorted to load-shedding as an immediate remedy in to mitigate possible collapse of their national grids. Countries such as North America, the European Union, California, and China have also encountered electricity supply challenges in the past. China has developed advanced systems and technologies that helped to mitigate electricity supply challenges and were seemingly determined to rescue other nations such as South Africa.

Electricity supply challenges have become a critical issue for South Africa, as Eskom has continuously been unable to meet the demand, having to rely heavily on load-shedding. The situation of load-shedding has had an impact on various areas of the South African society. Owing to the role of electricity in a business environment, SMMEs in South Africa are facing enormous challenges because of load-shedding.

SMMEs are globally recognised for their socio-economic significance. Many countries including the BRICS nations have taken critical measures to develop and support the SMMES sector within their economies. The United Nations as well as the SADC countries have also developed and adopted guiding frameworks in favour of advancing the SMME sector.

A further discussion on the exploration of the impact of load-shedding on SMMEs has been provided in Chapter Four. The research methodology that was employed in this exploration has been detailed in the subsequent chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter Two of this study was dedicated to conducting a thorough literature review. Moving forward, this chapter focuses on research methodology. Leedy and Ormrod (2019:73) define research methodology as the systems and instruments employed in conducting a study. It encompasses a comprehensive plan outlining the study's direction, route, and the various tools, techniques, mechanisms, procedures, and processes to be used. In the context of this study, the research methodology, detailed in subsequent sections, comprises several key components forming the overall master plan. These include the research paradigm, the chosen approach and design of the research, a description of the research area, details about the target population and the sampling strategy. Additionally, the chapter elaborates on the methods and techniques employed for data collection and analysis. Crucially, it also discusses the measures implemented to ensure the trustworthiness and reliability of the study's findings. This methodological framework serves as the backbone of the research, guiding each step of the study to ensure comprehensive, systematic, and credible results.

3.2 RESEARCH PARADIGM

Scientific research is often guided by shared beliefs and consensus among experts in a particular discipline, a phenomenon known as a research paradigm (Saunders, Lewis & Thornhill 2016:22; Williams 2018). A research paradigm encompasses the collective orientation of researchers towards addressing research problems and is typically categorised into three main areas: epistemology, ontology, and methodology. These categories act as lenses through which researchers conceptualise and approach their research problems, each with contrasting orientations (Leedy & Ormond 2019:25). This discussion delineates the research paradigm underpinning this study.

In the epistemological aspect, this study adopts an interpretivist orientation, focusing on how participants perceive and interpret their social world. This approach necessitates qualitative data that emphasise patterns and text, rather than numerical data, thereby prioritising an understanding of the research problem through descriptive analysis (Saunders, Lewis & Thornhill 2016:22).

Ontologically, the study aligns with constructivism. This orientation reflects the study's objective to construct comprehensive meanings from its findings, analysing, interpreting and constructing new understandings of the research problem (Burrell & Morgan 2017:12).

Methodologically, the study adopts an inductive approach, which emphasises the generation of theory and the formulation of new knowledge from observed data (Leedy & Ormond 2019:25; Saunders, Lewis & Thornhill 2016:22). This inductive stance allows the study to develop theories and knowledge grounded in the data collected, facilitating a deeper understanding of the impact of load-shedding on SMMEs.

3.3 RESEARCH APPROACH

Research studies in economic and management sciences typically employ qualitative, quantitative, or mixed methods approaches, each with distinct characteristics. Quantitative research is defined as a scientific investigation of phenomena using mathematical methods and techniques, emphasising measurement, quantification, and statistical analysis (Keyton 2013:35).

In contrast, qualitative research de-emphasises numerical data, focusing instead on exploring observable phenomena and relying on participant perceptions to derive meaning (Yin 2014:23). Mixed methods research combines both quantitative and qualitative approaches, offering a comprehensive perspective (Leedy & Ormond 2019:76). The choice of research approach is largely influenced by the researcher's paradigmatic alignment (Saunders, Lewis & Thornhill 2016:22).

Given the interpretivist research paradigm guiding this study, a qualitative approach was adopted. This approach is congruent with interpretivism's focus on evaluating, identifying, and understanding phenomena rather than quantifying them (Saunders, Lewis & Thornhill 2019:173). Mathe, Downing and Kearns (2021:9) posit that qualitative research is distinguished by its goals of understanding aspects of social life and its methods that typically generate words for data analysis rather than numbers.

Further emphasising its suitability, Gray, Grove and Sutherland (2016:673) assert that qualitative data are not amenable to mathematical analysis and cannot be easily quantified. A qualitative approach was ideal for this study as it allowed for the collection of context-specific local knowledge and gave voice to the experiences and perspectives of SMMEs (Patten & Newhart 2018:211). This method enabled an in-depth exploration and assessment of the critical aspects of the ongoing load-shedding and its impact on SMMEs, aligning with the study's objectives.

3.4 RESEARCH DESIGN

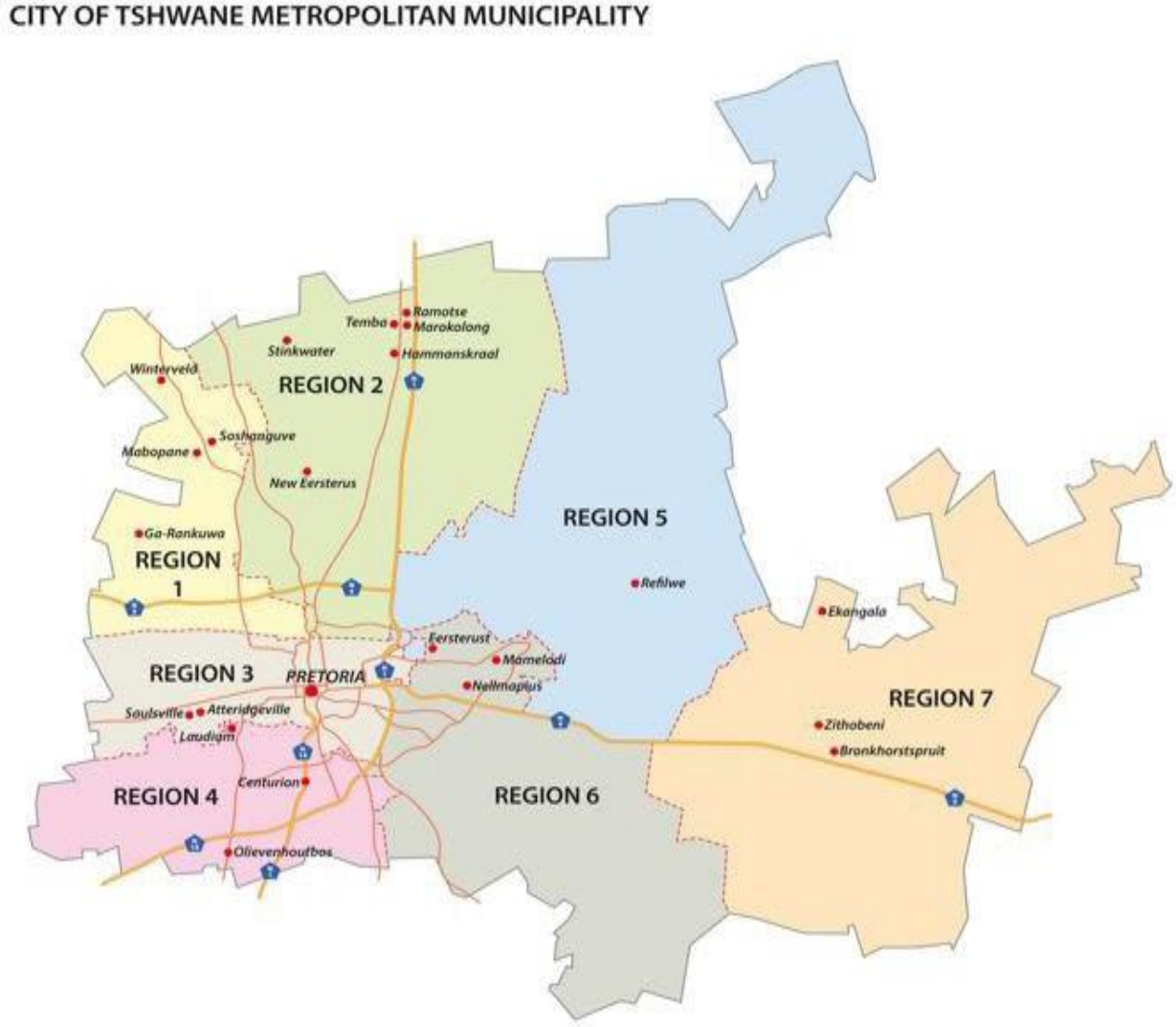
There are various research designs suitable for application in qualitative studies, including ethnography, case studies, grounded theory, content analysis and phenomenological design (Leedy & Ormond 2019:273). Research design can be understood as an implementation plan and techniques applied in undertaking a research study (Yin 2014:23). In this study, a phenomenological design was considered relevant and suitable as it was compatible with the purpose of the study, which sought to understand the impact of load-shedding on SMMEs from the perspectives of their owners or managers. In other words, the study sought to gather the perspectives of the participants on the impact of load-shedding on their SMMEs. The application of phenomenological design in this study is supported by Bryman (2012:714), who describes it (phenomenological design) as a study which focuses on how participants view or make sense of the observations around them. Leedy and Ormond (2019:273) corroborate this application by asserting that a phenomenological design relies on the perspectives of participants about the subject of investigation.

3.5 RESEARCH AREA, TARGET POPULATION, AND SAMPLING

It is a common practice to specify and describe the area where the study has focused on, including the population of interest within that area, as well as sampling techniques applied. The compelling advantage of providing information on these critical research aspects is largely to give more contextual meaning of the study (Patten & Newhart 2018:211). By understanding the research area, target population and sampling, other researchers may be able to conceptualise and relate well with the study and perhaps identify possible gaps which may necessitate further research (Guest, Namey & Chen 2020:2). In this study, the research area, target population and sampling have been specified and described in the following discussions.

3.5.1 Research area

The research area for this study was the City of Tshwane metropolitan area in the Gauteng Province of South Africa, covering 6 368km² of the province's 19 055km² (Statistics South Africa 2011). The figure below provides geographical information of the research area.



Source: https://www.vectorstock.com/royalty-free-vector/administrative-map-city-tshwane-pretoria-vector-33663698

Figure 3.5.1.1 Area map of the research site

3.5.2 Target population

The target population in a research study refers to the entire group of individuals or entities relevant to the research objectives (Guest et al 2020:2). For this study, the target population consists of SMMEs operating within the City of Tshwane metropolitan area (Mathe et al 2021:7). However, determining the exact size of the target population was challenging, particularly due to the presence of a significant number of informal, unregistered SMMEs (Companies and Intellectual Property Commission 2023). Furthermore, in terms of the City of Tshwane's approved Informal Trading Policy, focusing on SMMEs, it is estimated that there were over 2300 SMMEs operating within City of Tshwane metropolitan area (City of Tshwane 2011). This study has thus adopted its target population as comprising 2300 SMMEs in line with the City of Tshwane policy estimates. This target population encompasses both formal and informal businesses.

3.5.3 Sample design and criterion

In research studies, it is essential and justifiable to select participants or research subjects instead of studying the entire target population. The process of selecting and obtaining research subjects for inclusion in a research study is commonly known as sampling (Doone, 2011:106). There are different approaches to sampling applicable in qualitative studies, including convenience, snowball, quota and purpose sampling (Creswell & Poth 2018:257).

In this study, a purposive sampling technique was used. In other words, SMMEs were chosen with a clear purpose in mind (Patten & Newhart 2018:211). That purpose was to ensure that only SMMEs which were likely to assist in answering the research questions were sampled. This implies that not all SMMEs had a probability of being sampled. So, during sampling, the researcher was clear in their mind what the inclusion criterion is (Patton 2018:264). Purposive sampling has therefore enabled the researcher to sample SMMEs which contributed positively to the study (Jourabchi, Sharif, Lye, Asefzadeh, Khor & Tajuddin, 2018:102).

SMMEs studied were sampled based on the following inclusion criterion:

- Must be operating within the City of Tshwane metropolitan area;
- Must have been in active operation for over a year;
- Must be operating in an area that has been experiencing load-shedding for over a year, and
- Must be represented by its owner or manager who is voluntarily willing and able to participate in the study.

3.5.4 Sample size

Generally, determination of appropriate sample sizes is critical in research studies. The sample size in a qualitative study is very important, but the exact sample sizes are not necessarily prescribed as in a quantitative study (Kyngäs, Mikkonen & Kääriäinen 2020:8). Brink (2019:203) posits that there are no fixed rules for determining sample sizes in qualitative studies.

This study has sampled 14 SMMEs (1% of the target population) (Andrade 2020:102), each being represented by one person (participant), who was either its owner, business partner or manager. Effectively, this implies that the sample comprised of 14 participants, each of whom was representing their respective SMME. This sample size was supported by Leedy and Ormrod (2019:46) who confirmed that a typical sample size for qualitative studies is between 5 to 25 individuals. Jourabchi et al (2018:104) caution that a large sample size cannot guarantee precision. The sample size of 14 SMMEs was selected to provide an overview of the impact of load-shedding on SMMEs, while being feasible for in-depth qualitative analysis within the scope of this study.

3.6 DATA COLLECTION

Data collection in research involves selecting participants and gathering relevant data from them, a process integral to understanding and investigating a research problem (Patten & Newhart, 2018:21; Gray et al 2016:674). In qualitative studies, several techniques are employed, including participant observation, semi-structured in-depth interviews, focus groups, participatory research, and case studies (Leedy & Ormond 2019:95). This study focused on understanding and capturing the lived experiences of participants representing their SMMEs.

Qualitative researchers often seek an insider's view by engaging directly with subjects, believing that first-hand experiences provide valuable insights (Merriam & Grenier 2019:123). This study adopted a phenomenological approach, exploring and describing participants' experiences (Creswell & Poth 2018:155).

Data collection began with the identification and recruitment of SMMEs across the seven regions of the City of Tshwane. Initially, 32 SMMEs were identified, but only 14 met the inclusion criteria and agreed to participate. The remaining were either not fully compliant with the criteria or declined to participate. Each of the 14 participating SMMEs received detailed briefings about the study, its objectives, and their rights as participants. This included the provision of gatekeeper's permission, ethical clearance, and consent forms, which were thoroughly reviewed and signed by the participants.

The primary data collection method was semi-structured in-depth individual interviews, which commenced after obtaining written consent (Patten & Newhart 2018:212). These interviews were chosen for their flexibility and ability to encourage open and honest communication (Creswell & Poth 2018:259). Conducted at the business sites of each SMME, the interviews, which were recorded and accompanied by field notes, lasted no more than 20 minutes each. This approach facilitated a direct engagement with participants, allowing for an in-depth exploration of their challenges, coping mechanisms, and perspectives.

3.7 DATA ANALYSIS

Data analysis is when the researcher systematically organises and synthesise the data that was collected during the investigation (Polit & Beck 2017:94). Creswell and Poth (2018:259) assert that data analysis is an interactive process where steps are interrelated and is not an orderly linear hierarchical stepwise process. Kyngäs, et al. (2020:8) emphasise that it is important for researchers to commence analysing data during the collection process so that they are aware of data saturation.

In this study, data analysis was guided by Braun and Clarke (2006:77-101)'s thematic principles, which entailed the proactive search for meaningful concepts that reflected various aspects of the participants' perspective and experience, followed by the integration of those concepts into seemingly typical experiences, the latter which were systematically categorised into main themes, themes and sub-themes. The outcome of data analysis has been detailed in the subsequent chapter, where a summary of themes has been provided in Table 4.4.1, followed by the corresponding detailed presentation and discussion of findings.

3.8 MEASURES TO BE TAKEN TO ENSURE TRUSTWORTHINESS.

The concept of reliability and validity may not be suitable for ensuring the quality of qualitative data. Instead, the concept of trustworthiness is widely used in ensuring the quality of qualitative data (Beck & Polit, 2018:88). Trustworthiness refers to how much trust can be given to the research process and the findings in qualitative study (Mathe et al 2021:8) In this study, ensuring trustworthiness involved implementing the following measures: transferability, confirmability and credibility (Morrison & Furlong 2019:109).

3.8.1 Transferability

The researcher has made available the research data so that other researchers can be able to access and probably apply the study's results to different settings (Kyngäs et al 2020:42). The data available include demographic information (excluding

personal identities), comprehensive description of the research methodology applied and followed in this study, as well as empirical data.

3.8.2 Confirmability

The researcher made sure that the discussions, interpretation, conclusions, and recommendations are supported by credible evidence. Moreover, data was interrogated and thoroughly checked to ensure the analysis and findings are justifiable, realistic and have factual basis (Mathe et al 2021:7).

3.8.3 Credibility

While conducting interviews, the researcher was rigorous and paid attention to detail (National University 2023). The researcher also ensured that the participants' responses were accurately reflected in the data. This implies that statements from the participants were used without undue alterations (Polit & Beck 2018:66).

3.9 ETHICAL CONSIDERATIONS

It is fundamental that researchers, particularly when conducting research studies that significantly involve human beings as the objects of the study, take into consideration all relevant and applicable ethical matters (Morrison & Furlong 2019:110). The following considerations were deemed relevant and thus observed in this study:

3.9.1 Ethical clearance

In this study, it was peremptory to apply and be granted ethical clearance by University of Limpopo's TREC. Accordingly, the study has followed all the prescribed processes and rules to obtain an express ethical clearance which was ultimately issued as per letter referenced **TREC/1675/2023: PG** and dated 04 December 2023. Prior to the ethical clearance, the study was also granted gatekeeper permission by City of Tshwane municipality as per the letter dated 05 September 2023. Having been granted gatekeeper permission and eventually the ethical clearance, the researcher proceeded to identify and recruit SMMEs for participation.

3.9.2 Voluntary and informed consent

Voluntary and informed consent is the cornerstone in research ethics. The rationale behind this cornerstone is that prospective participants should exercise their right to be informed about all critical aspects about the study and be afforded an opportunity to freely decide if they want to participate or not (University of Oxford 2021). In other words, it was expected and required that voluntary and informed consent be obtained without undue influence and before actual participation.

In this study, the researcher ensured that sampled SMMEs (in this instance their representatives who were the participants) were properly informed about the purpose of the study and their sought participation thereof. Each of the participants was requested to express their voluntary and informed consent by signing the consent forms before the actual interview could commence (Abutabenjeh & Jaradat 2018:239). All 14 participants signed the consent forms.

3.9.3 Respect and dignity

The researcher was conscious that the principle of respect for human dignity (South Africa 1996) is critical in this study and accordingly undertook to guard against the possibility of any of these aspects denting the respect and dignity of participants and SMMEs. The researcher utilised a language that was both professional and respectful during all engagements with the participants. Moreover, the researcher was cautious not to veer into personal areas of participants but strictly confined himself to the context of this study (Morrison & Furlong 2019:111).

3.9.4 Principle of non-maleficence – Protection from harm

Protection from harm is a critical ethical issue in research studies. Harm mainly refers to any form of injury to the safety, rights, and personal welfare of research participants. Harm may manifest in the form of reputational, psychological, physical, social or economic factors (Polit & Beck 2018:67). The researcher was conversant, cautious

and mindful about all these factors and successfully ensured that all participants were afforded adequate assurance and reasonable protection against each one of them.

3.9.5 Right to privacy and confidentiality

The researcher was mindful that each participant possessed and enjoyed their constitutional right to privacy and confidentiality (South Africa 1996). With this consideration in mind, the researcher understood and accepted an inherent duty not to disclose any information or part thereof to others, without the participants' express consent. The researcher has therefore kept all the information disclosed in pursuance or as part of participation in this study safe, private, and confidential. Furthermore, the researcher has also kept the identity of participants confidential, even though none of the participants expressed any wish to remain anonymous (Abutabenjeh & Jaradat 2018:239).

3.10 CONCLUSION

Chapter Three was devoted to research methodology. In other words, the preceding discussion focused on describing the research methodology as followed and applied in pursuing the founding study objectives. The research design, processes, tools, and techniques used in undertaking the study were clearly articulated. This chapter also identified and described critical ethical considerations which were eventually observed and adhered to. Furthermore, chapter three also outlined all the measures taken to ensure study trustworthiness. In Chapter Four, the analysis, presentation, discussion, and interpretation of findings have been provided.

CHAPTER FOUR

DISCUSSION OF THE FINDINGS

4.1 INTRODUCTION

Chapter Three of this study comprehensively outlined the research methodology, detailing the processes, tools, and techniques utilised to explore the research problem. Chapter Four shifts the focus to the analysis, presentation, and interpretation of the findings gathered during the study. This chapter is devoted to dissecting the data collected from the SMMEs within the City of Tshwane metropolitan area, particularly in relation to their experiences and coping mechanisms concerning load-shedding. The analysis aims to uncover patterns, themes, and insights from the qualitative data, providing a thorough understanding of how load-shedding impacts these businesses. The presentation of findings will be followed by a discussion that interprets these results in the context of the existing literature and the broader research problem. Through this analytical process, the chapter endeavours to translate the empirical data into meaningful conclusions and implications, thereby contributing to the existing body of knowledge on the subject and offering practical insights for stakeholders, including policymakers, business owners, and the academic community.

4.2 PROFILE OF PARTICIPANTS

During data collection, all 14 participants were each requested to provide their respective relevant demographic information as part of their provision of informed consent. This information included the race profile of participants, their gender, age, highest qualification, position within the SMME structure, nationality, as well as their experience in owning or managing SMMEs. In this study, demographic information was deemed necessary and useful in providing contextual and comprehensive understanding of the SMMEs. Various aspects of participants' demographic information have been described and discussed below:

Figure 4.2.1 below provides information in respect of gender of participants. The 14 participants who represented the SMMEs consisted of 9 male and 5 women.

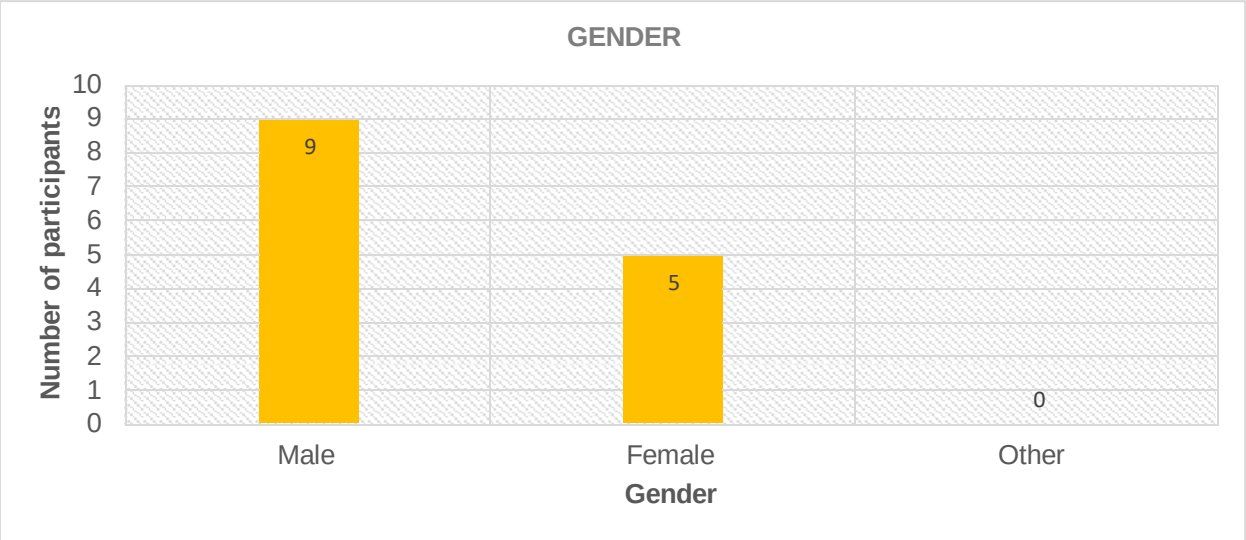


Figure 4.2.1 GENDER OF PARTICIPANTS

The next figure provides a graphical presentation of the races of participants. All participants were African.

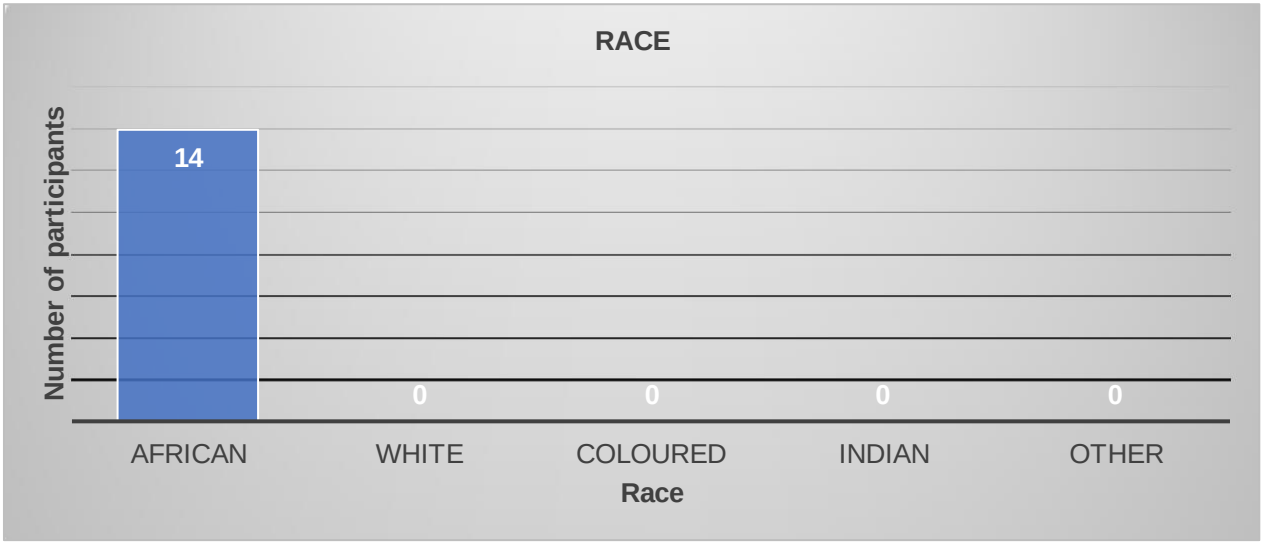


Figure 4.2.2 PARTICIPANTS' RACE PROFILE

Figure 4.2.3 presents the age profile of participants, where all 14 of them fell within the ages of 21 and 59 years. This implies that neither the minors nor anyone above the age of 59 years old participated in this study.

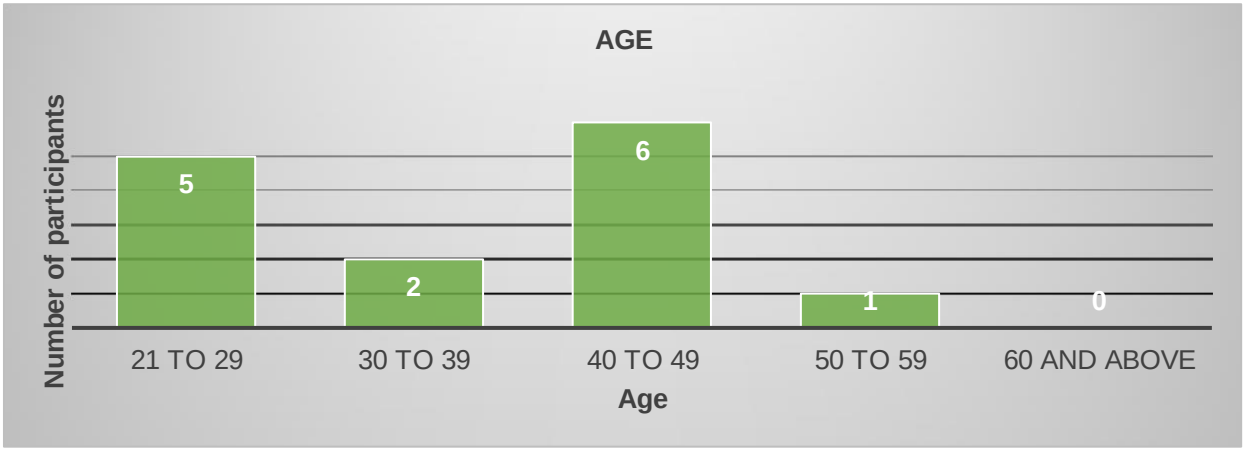


Figure 4.2.3 AGE OF PARTICIPANTS

Another demographic aspect considered was the highest qualification held by participants. Figure 4.2.4 below provides an overview in this regard. Of the 14 participants, 11 did not possess a Bachelor of Technology degree, bachelor's degree or an NQF level 7 qualification. Only participant P6 who identified himself an Electronics Engineer possessed an NQF level 7 qualification as the highest qualification. Moreover, only participant P7 possessed a qualification at an honours level (NQF level 8 qualification) and identified herself as a practicing Optometrist holding the position of manager within the Optometry practice which was part of the final sample. As a Dentist, participant 12 was also the only one who held a doctoral qualification and occupied the position of manager and owner at the Dental practice which was sampled.

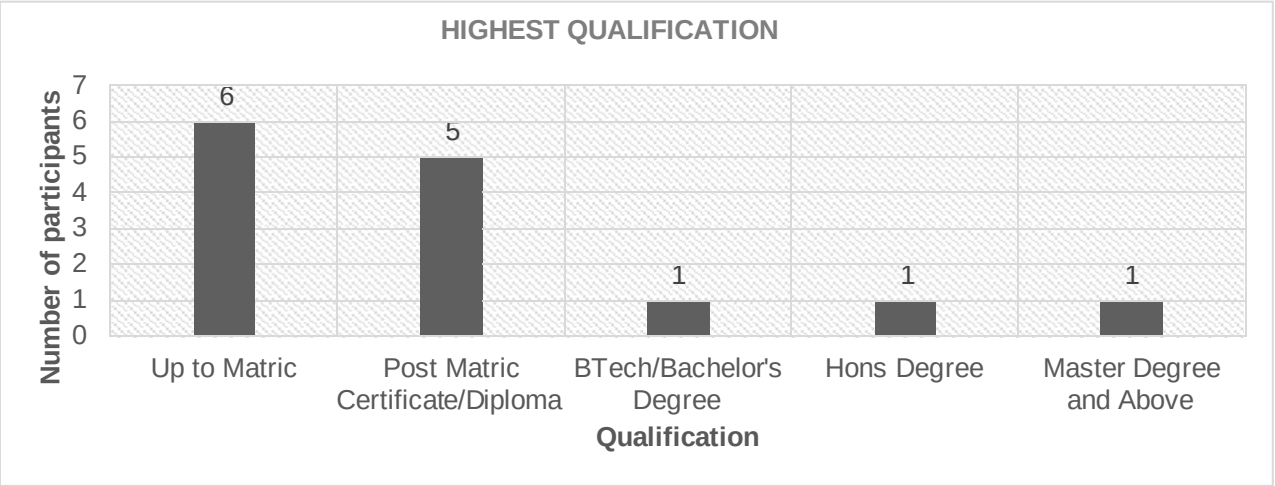


Figure 4.2.4 HIGHEST QUALIFICATION HELD BY PARTICIPANTS

In this study, the position held or occupied by participants was considered critical for inclusion as it provides a better and more contextual understanding of the SMMEs which were sampled. For the purpose of this study, three key positions were regarded relevant and key, and included the manager, sole owner and partner. Figure 4.2.5 below provides a graphical summary of positions held or occupied by participants. In terms of the graphical illustration below, 50% of participants held managerial positions within their respective SMMEs, followed by 36% of participants who identified themselves as sole owners of their respective SMMEs. Only 2 of the 14 participants were business partners, meaning that they jointly owned the SMMEs with other co-owners.

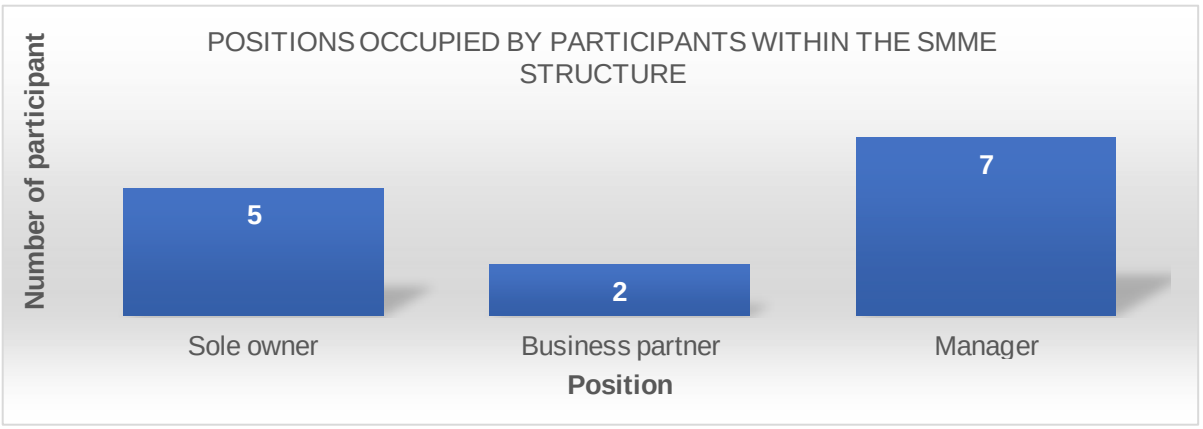


Figure 4.2.5 POSITION OCCUPIED BY PARTICIPANTS WITHIN THE SMME STRUCTURE.

The nationality of participants also provided valuable insights, significantly enhancing the study. South Africans accounted for the largest number of participants as they accounted for 64% (9 participants) of the total participation. Zimbabweans accounted for 29% (4 participants) whereas only one participant was a Malawian, accounting for 7%.

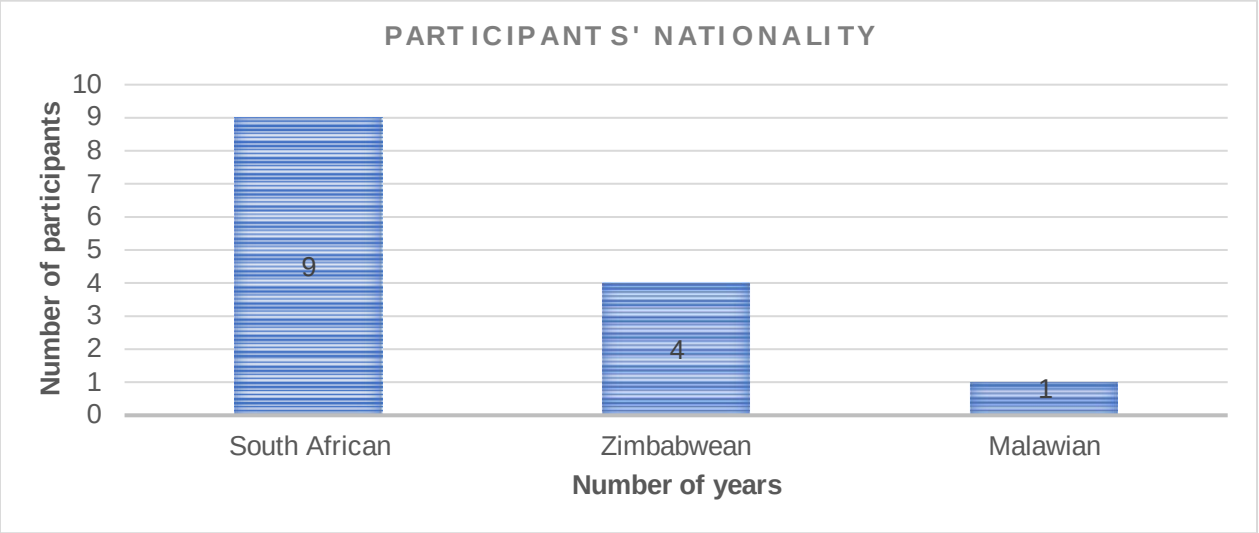


Figure 4.2.6 PARTICIPANTS' NATIONALITY

Another critical aspect relates to participants' experience in owning or managing the SMME business. It was considered necessary to establish information about the extent of experience of participants in owning and/or managing the SMMEs. This information has assisted the researcher in conducting a meaningful and contextual data analysis. Figure 4.2.7 below provides a graphical overview of the experience held by participants. Of the 14 participants, only four had relatively lesser number of years' experience whereas the rest possessed many years of experience. However, all 14 participants demonstrated and expressed significant understanding and knowledge of their respective SMME operations, and the challenges imposed by load-shedding. With the participants' demographic information having been described, the following discussion provided critical insights into the profile of SMMEs which were sampled and represented by the 14 participants.

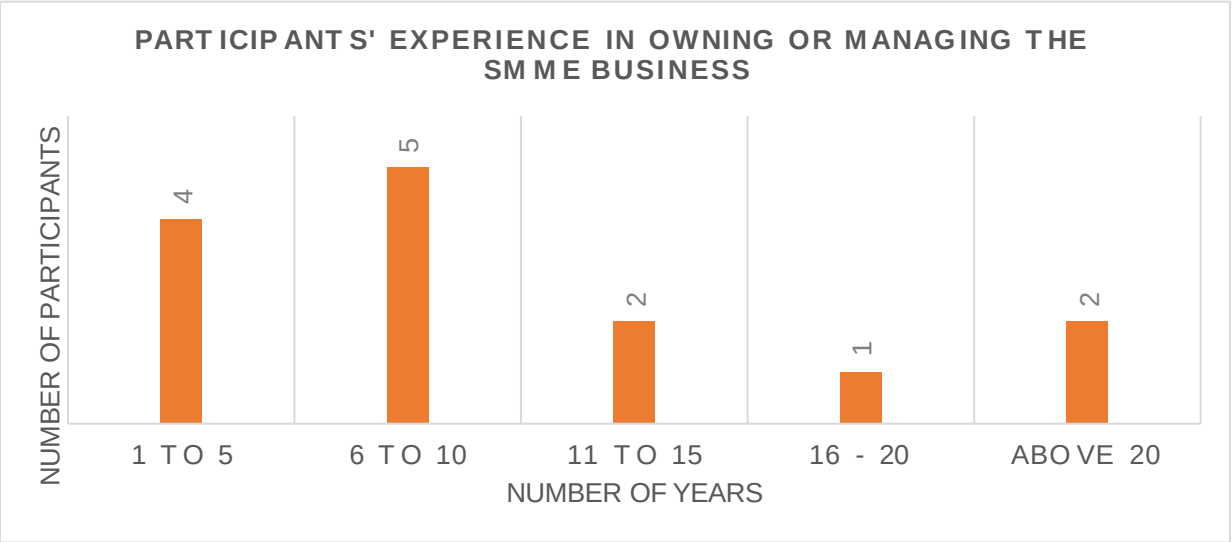


Figure 4.2.7 PARTICIPANTS' EXPERIENCE IN OWNING or MANAGING THE SMME BUSINESS.

4.3 PROFILE OF SMALL, MEDIUM, AND MICRO ENTERPRISES

The main purpose of this study was to explore the impact of load-shedding on SMMEs operating within the City of Tshwane metropolitan area. It was thus considered necessary and critical to establish more relevant information about the sampled SMMEs. The following tables provide this information as gathered during data collection. The information has been organised per region and includes the type of specific SMME which was sampled in that region, the participant who represented that SMME, products and services provided by the SMME, as well as their key uses of electricity.

Table 4.3.1 Profile of small, medium, and micro enterprises: Region 1

REGION 1				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P11	Medical practice - General Practitioner	General medical services, e.g.	Lighting inside consulting rooms
			X-Rays, Sonar, Delivery, Oxygen, Diagnosis	Powering medical equipment
			Check-ups	General administration - computers
			Blood services	Medical Insurance on-line system
				Telephones, fridges
SMME 2	P9	Tyre repair and wheel fitment centre	Tyre repairs	Powering of air compressor machine
			Wheel alignment and balancing	Powering of tyre pair machine
			Wheel pumping	Powering of wheel alignment and balancing stations

Table 4.3.2 Profile of small, medium, and micro enterprises: Region 2

REGION 2				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P6	Electrical & Electronics repair centre	Repair of electrical and electronics equipment	Lighting
			E.g. Televisions, radios, decoders	Powering test and repair equipment
			Washing machines, stoves, microwaves	General administration - computers
			Watches, cell phones, laptops, solar panels	Test and commissioning
			Fridges, Dishwashers	Charging apparatus
SMME 2	P12	Dental surgery	General dental services	Lighting inside consulting rooms
			e.g. Performing surgery	Powering medical equipment
			X-Rays	General administration - computers
			Medical diagnosis	Medical Insurance on-line system
				Telephones

Table 4.3.3 Profile of small, medium, and micro enterprises: Region 3

REGION 3				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P4	Nails and Hair saloon	Haircut and styling	Saloon lighting
			Nail cut and styling	Powering of nail and hair equipment
			Make-up	E.g. hair and nail dryers
			Sale of hair, nail and make-up products	Hair washing sprays
			Photo shooting	Entertainment television and radio
SMME 2	P10	Aluminum and burglar manufacturers	Manufacturing of various aluminum products	Powering of workshop tools
			e.g. Doors, windows, sliding doors	E.g. Grinders, drilling machine
			Pivot doors, security burglars	Electric screw drivers
			Supply and install	Workshop lighting

Table 4.3.4 Profile of small, medium, and micro enterprises: Region 4

REGION 4				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P13	Fast food outlet	Sell and serve food and drinks	General and entertainment lighting
			Provide sit-in dinning services	Powering of cooking apparatus
			Take aways	Sound system
			Catering	Speed point machine
				Fridges
SMME 2	P14	Driving school	General driving school services	Office lighting
			Leaners license administration	
			Drivers' license administration	
			leaner and driver training	
			Documents photocopy	

Table 4.3.5 Profile of small, medium, and micro enterprises: Region 5

REGION 5				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P3	Welding and steelworks	Manufacturing of gates, burglars, windows	General workshop lighting
				Powering of machinery such as
				Grinders, drilling, and welding machines
				Cutting tools, bending machines
SMME 2	P2	Tavern	Provides dining services	Fridges
			Selling and serving of drinks and alcohol	Ice-making coolers
			Entertainment: Music and Television	Providing lighting for dining area
				Speed-point

Table 4.3.6 Profile of small, medium, and micro enterprises: Region 6

REGION 6				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P8	Nails and Hair saloon	Haircut and styling	Saloon lighting
			Nail cut and styling	Powering of nail and hair equipment
			Make-up	E.g. hair and nail dryers
			Sale of hair, nail, and make-up products	Hair washing sprays
SMME 2	P1	Tavern	Provides dining services	Fridges
			Selling and serving of drinks and alcohol	Ice-making coolers
			Entertainment: Music and Television	Providing lighting for dining area

Table 4.3.7 Profile of small, medium, and micro enterprises: Region 7

REGION 7				
	REPRESENTED BY PARTICIPANT	TYPE OF SMME SAMPLED	SMME PRODUCTS/SERVICES	KEY USES OF ELECTRICITY
SMME 1	P5	Carpentry	General woodwork	Powering of machinery and tools
			E.g. Manufacture and install wardrobes, kitchen units	E.g. Drilling machines, grinders
			Office units, furniture	wood cutters
			Installation of ceilings	Charging re-chargeable tools such as
			Design and scoping	electric screw drivers and drills
			Wood cutting	General workshop lighting
SMME 2	P7	Optometry practice	General optometry services	Lighting inside consulting rooms
			E.g. Eye inspections	Powering medical equipment
			Prescriptions of glasses	Telephone and computers
			Vision assessments	Medical Insurance on-line system

Moving forward, the chapter focuses on the presentation and discussion of research findings.

4.4 PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS

The process of data analysis resulted in three themes and seven sub-themes, all of which have been described in detail in the following discussions.

Table 4.4.1 Summary of themes

RESEARCH OBJECTIVES		MAIN THEMES	THEMES	SUB-THEMES
1.3.1.1	To establish the challenges faced by SMMEs due to load-shedding.	1. Challenges	1.1 Sustainability	1.1.1 Financial
				1.1.2 Customer relations
				1.1.3 Operational
1.3.1.2	To assess the coping mechanisms currently used by SMMEs to sustain their business operations during load-shedding periods.	2.Coping mechanisms	2.1 Drastic measures	2.1.1 Close, stop or halt
			2.2 Business continuity	2.2.1 Minimise dependency
1.3.1.3	To explore the perspectives of SMMEs on possible strategies to alleviate the impact of load-shedding on their businesses.	3. Perspectives	3.1Government intervention	3.1.1 End load-shedding
				3.1.2 Subsidise alternative sources

Source: Researcher's own work

RESEACH OBJECTIVE 1.3.1.1 To establish the challenges faced by SMMEs due to load-shedding

The themes which emerged in pursuance of objective 1.3.1.1 have been outlined in the subsequent discussions.

MAIN THEME 1 Challenges

MAIN THEME 1 focused on the challenges faced by SMMEs due to load-shedding. A variety of complex but inter-related challenges were revealed by participants during interviews. All those challenges predominantly related to business sustainability, hence the following sub-theme.

SUB-THEME 1.1 Sustainability

All 14 participants confirmed that load-shedding has severely impaired sustainability of their SMMEs. Participants overwhelmingly reported that load-shedding has brought challenges to their businesses and have expressed concerns about their future, with four SMMEs having retrenched portion of their staff complements. All this was confirmed by the following quotes:

'Before load-shedding…our business was working very well because we didn't have anything that affected us. We were working very well, but after that, yoh…everything changed, and our customers are no longer coming like as they used to come before. So, yeah, it's bad. But we are surviving. We are surviving' ***[Participant 7].***

Bad is really all I can say. It is really bad, and it has been affecting us a lot. Life has changed completely due to load-shedding because it has destroyed our businesses ***[Participant 4].***

'…it (load-shedding) affected it negatively. Yes, to read it in any percentage, I can say 50% of my performance is gone. It's really negatively affecting the business… So that's exactly how my business is. It's down actually. Yeah, it's down. It's down' ***[Participant 12].***

*'So, most of the time it's a losing business… mostly I take out money more than the way I am getting the money' [**Participant 6**].*

*'We had to retrench some of the workers in order to save some money to buy petrol for the generator and also to pay rent for business premises' **[Participant 9].***

It was clear from the preceding quotes that participants were mindful of the real threat of load-shedding on the sustainability of their businesses. According to Bechtold, Kaspereit, Kirsch, Lyakina, Seib, Spiekermann and Stengert (2013:205), sustainability refers to the "long-term continuation of a business entity through the means of fulfilling its relevant economic responsibilities, environmental responsibilities, and social responsibilities". In this study, sustainability should be deemed to imply the continuous and long-term ability of an SMME to achieve and maintain sound financial viability, consistently operating profitably while meeting its customer expectations.

Some of the SMMEs were already finding it difficult to sustain their businesses amid the persistent load-shedding. Nyanzu and Adarkwah (2016:3) posit that electricity supply has become a critical enabler of business sustainability. This implies that SMMEs in South Africa are largely dependent on electricity supply for their core operations (Mbomvu, Hlongwane, Nxazonke, Qayi & Bruwer 2021:1). This confirms that the reason SMMEs in this study are battling to sustain their businesses is because of load-shedding.

During the load-shedding crisis that occurred in the early 2000s in North America, many SMMEs could not sustain their operations and growth (Umar & Kunda-Wamuwi 2019:20). In this study, all participants have confirmed that their SMMEs have been undergoing serious sustainability challenges since the emergence of load-shedding in the country. SMMEs in South Africa are known to have low sustainability rate, with over 70% of SMMEs becoming unsustainable within three years into operations (Bruwer & Coetzee 2016:202). This strongly suggests that load-shedding may render SMMEs in City of Tshwane unsustainable, thus compounding the statistics of failures if no solution is found on time. Mbomvu et al (2021:2) confirm that load-shedding is the new external factor which is adversely compromising the sustainability of SMMEs in South Africa

A total of three sub-themes emerged, SUB-THEME 1.1.1 Financial, SUB-THEME 1.1.2 Customer relations and SUB-THEME 1.1.3 Operational.

SUB-THEME 1.1.1 Financial

It was affirmed by all participants that load-shedding has imposed significant financial challenges onto their SMMEs. Participants were unanimous in that their SMMEs are no longer profitable. This issue was overwhelmingly captured in the following quotes:

'…If people come, they'll go back because we won't be able to work. But if we have electricity, many people come, and we are able to serve them and generate income. So, load-shedding is affecting our business finances so bad' ***[Participant 7].***

'….and now the profits are going down. You don't get the way you used to…' [Participant 8].

'…because we have to transfer patients to other institutions for them to get help and of which with that, we are losing clientele, we are losing money, so that's how it (load-shedding) affects' ***[Participant 11].***

'I can say the profit has decreased like to 70%. Yeah, like 70%. If I was getting R1000.00, now I'm getting like R300,00. Now, with the cost of living being so high, it's a challenge. It's a challenge now' ***[Participant 4].***

So, as I explained earlier on, in terms of finances, we are struggling in terms of finance because of this load-shedding. You understand?' ***[Participant 12].***

'Well, we're not going anywhere. There's no progress. That's what I can say. There's no progress here. Since we're just leaving from hand to stomach, there are no profits at all' ***[Participant 2].***

'*We are no longer making money like before. Sometimes we sit for six hours not doing any work and only work for four hours on that day…'* ***[Participant 9].***

'Things are no longer the same since load-shedding. We no longer making money. The difference is now huge. Before load-shedding you could tell that I'm working but now it is different' ***[Participant 3].***

80% of participants raised common concern relating to weak cash flows and capital challenges, and this exacerbated their worries that they were no longer able to meet their short-term obligations, including paying monthly rent for business premises. The situation escalated to the extent that it became difficult to even save meaningful capital because of weakening cash flows. The following quotes revealed the severity of cash flow and capital constraints triggered by load-shedding:

'Eish, we don't manage. You see the generator is always costing us. We are always buying fuel, what? what? So, it costs us' ***[Participant 10].***

'A back-up is something that we are really looking into. Yeah. And you see, you cannot just think of back-up and get into it. You need money. You need capital so that we can have a back-up. So, you must have a budget for…then if we don't have a budget for that, you just have to forget about a back-up. You understand so. Then it's hard to have capital, especially under this load-shedding condition. So, the load-shedding is affecting the capital negatively so' ***[Participant 12].***

*'…but there are some certain things like…a generator. It's rather expensive. You can't have profits. Like if you buy a generator, it's expensive because of fuel. Also, it's expensive, so it's not an option for now [****Participant 4****].*

'No, I don't use any backup. I don't have money to buy it' ***[Participant 6].***

As affirmed by all participants, it became evident that SMMES in City of Tshwane were facing critical financial challenges, be it profitability, cash flow and capital. In other words, load-shedding has adversely impacted the SMMEs' overall financial capabilities. In a study conducted by (Mbomvu et al 2021:1), which investigated the impact of load-shedding on the solvency, profitability, efficiency, and liquidity of SMMEs, it was found that load-shedding has adversely compromised all these financial aspects of SMMEs. This was supported by Ateba, Prinsloo and Gawlik

(2019:1325), who confirmed that SMMEs in South Africa are unable to operate profitably during load-shedding periods and this results in their facing critical financial challenges. Their financial challenges are further worsened by inherent monthly business obligations such as having to pay remunerations for employees and rental for business premises (Schoeman & Saunders 2018:330). In their study, Viljoen and Struweg (2016) found that in South Africa, load-shedding severely impacted the financial viability and competitiveness of SMMEs, further limiting their meaningful engagement in business (Viljoen & Struweg 2016).

SUB-THEME 1.1.2 Customer relations

All participants revealed that load-shedding has impacted their businesses' customer relations. All participants acknowledged that they are no longer able to offer the best customer service. Load-shedding has made it increasingly difficult and often impossible for them to provide nor guarantee services as they become due or needed. The following quotes provide insights into the severance of poor customer service:

'If we have patients who need sonar, oxygen, X-rays and with this electricity we can't do anything. That means our business suffers because we have to transfer patients to other institutions for them to get help and of which with that, we are losing clientele, we are losing money, so that's how it (load-shedding) affects' ***[Participant 11].***

'…So, if we don't have lights, we won't be able to test our patients…' ***[Participant 7].***

'…. because without even checking for available funds online, there's no way you can help a patient unless they can bring their latest treatment of which it must not be more than five days dated ***[Participant 11].***

'…you may find that you have got load-shedding from 9:00 am to 12:00 pm…and you can't tell the clients that now, please come at this particular time so that we can help you. Even if they can come, you can't finish them in two hours. You need to take your time. Remember you are dealing with the life of somebody. Yes, you cannot just take chances. You need to sit and do what is what's correct, you see ***[Participant 12].***

'Yeah, it's affecting us…. You see, when there is electricity, we just work fast, fast, fast. But when there is a generator, it is too slow, it's very slow. So, we work a little bit, a little bit, a little bit, so, some of the customers will run away because they need their job to be done fast, fast, fast, you see ***[Participant 10].***

'Sometimes you can't even do some fries for people because of load-shedding' [Participant 13].

'When a customer comes to our workshop and finds that we don't have electricity and we try to persuade them to come back later, they leave and go to other fitment centres in town where they probably get assisted. With us, during load-shedding we are unable to assist our customers' ***[Participant 9].***

'Some customers can give you work but end up coming back to claim they money because you would have failed to deliver their goods' ***[Participant 3].***

Moreover, as confirmed by participants, there has been a significant reduction in customers visiting their business establishments since load-shedding emerged. This is what participants had to say regarding this customer relations aspect:

Customers can't come during work hours because they think we don't have something to use when there is load-shedding, so you get only limited customers. Because they know we work with electricity, they will stay at home. Sometimes we can spend the whole day without getting any customers ***[Participant 8].***

'We don't have a backup. When it's load-shedding we don't usually have customers' [Participant 7].

'Because I'm not working every day due to load-shedding, the number of customers is like decreased a lot ***[Participant 4].***

'I can give you an example, sometimes I find that I see seven a day or six a day and the medical aid ones and also combined together with the cash ones. Even under normal circumstances, I cannot go beyond ten. But then in terms of numbers,

remember that I said I see six or seven. Right now, I find that the whole day I can only see three or two. For example, today it's only one since in the morning. Only one' ***[Participant 12].***

'…and the customers are getting slow, slow, slow. They are not coming because they think we are slow because of that load-shedding…' ***[Participant 10].***

'Most of our customers are students. So, at night, they wanna come buy something so that they can eat. So sometimes if it's load-shedding they are scared to come here because it's gonna be dark' ***[Participant 13].***

'…also, the customers cannot even come to your shop because no one can pick up a TV going to shop when they know that there is no electricity' ***[Participant 6].***

'Some they're no longer coming…they won't come if there is no electricity because they want it cold' ***[Participant 2].***

'Before load-shedding, we used to get lots of jobs. But now there is nothing. Customers will come all the way from the suburbs and give us welding jobs to do at our premises…and you get money. Maybe for ten gates you get R25 000.00. But now it is no longer possible because of electricity. Everything is down' ***[Participant 3].***

The fact that all the participants raised concerns about the same challenge confirms the seriousness and severity of the customer relations challenges they are facing. It makes sense that customers would generally not return to the same place where they could not get service, but rather try elsewhere. Moreover, in instances where one cannot provide a service, such in a medical practice or supply a product, as in a restaurant, it may become impossible to build nor maintain good customer relations. It was not surprising that some of the businesses have been losing customers over a period since load-shedding. Obviously, a reduction in customer visits has resulted in financial challenges as already discussed above.

A similar study was conducted in the City of Johannesburg, investigating the impact of load-shedding on SMMEs operating in shopping malls. It was found that load-shedding has resulted in SMMEs losing a significant number of customers, which also translated into loss of income (Schoeman & Saunders 2018:329). Another similar recent study was conducted in Nelson Mandela Bay, focusing on the impact of load-shedding on restaurant businesses. It was also found that load-shedding compromised productivity and customer service as the businesses could not serve meals as and when needed by customers (Botha 2019). In this study, a restaurant business also participated **[*Participant 13*]** and shared an experience where they could not prepare fries for customers during load-shedding.

Another similar study was conducted in Ghana by Boakye, Twenefour and McArthur-Floyd (2016:39), where they investigated the impact of load-shedding on the hotel industry. They found that load-shedding has had a negative impact on the overall productivity of hotel businesses as they were no longer able to serve the usual number of customers. In their recent study, Mabunda et al (2023:11) found that SMMEs in Collins Chabane Local Municipality, particularly those with no alternative electricity supply or back-ups, could not provide services and were forced to send back customers. It may thus be concluded that load-shedding results in customer relations challenges for SMMEs.

SUB-THEME 1.1.3 Operational

13 out 14 participants shared their experiences relating to various operational challenges imposed by load-shedding. According to the participants, their businesses were not able to operate properly during load-shedding. Some of the business operational activities and tasks had to be abandoned, whereas some of the services could no longer be provided due to load-shedding. These experiences have been captured in the following quotes:

'Medication…some medication needs to stay in a cool place of which we use refrigeration. So, if it (electricity) goes for a long time, then we suffer…' ***[Participant 11].***

*'If you want to check something in the computers or to charge our phone, that's when the challenge is coming in' [**Participant** 5].*

*'Yeah, load-shedding in this area. It goes anytime it wants and comes back anytime it wants, so it doesn't have a specific time which makes it difficult for the work, especially if you want to arrange your work. Say I want to work on this period, but the lights won't come back at the same time. So, it becomes a problem' **[Participant 8].***

*'Because sometimes if we don't have electricity, we can't work properly because our testing rooms are very dark' **[Participant 7].***

*'…because we also work with medical aids. So, we won't be able to confirm benefits because the phones won't be working as well. So, it's bad, it's bad for our business' **[Participant 7].***

*'…you find some of the clients they need their job to be done fast, fast, fast, and because of we are using a generator, so the things are moving slow, slow, slow, slow. Yeah, it's too different from when you use the electricity **[Participant 10].***

*'Because when it's load-shedding, some other meals, we can't, we can't sell some other meals because of load-shedding…yes. And it's also difficult for us for people to pay because there's no network **[Participant 13].***

*'…because the generator that I have right now is too small, it cannot run fridges. It's only for the lights. So, you find that if there's no electricity because sometimes, we run out of electricity for four days, you see, that means there's no business for the whole four days, because you can't be selling hot beers to the customers. So, I think that's the main challenge that we have' **[Participant 2].***

Participants have also revealed that higher stages of load-shedding have forced their businesses to reduce their operating hours. This, according to the participants, was because during load-shedding their business operations were put on hold pending the restoration of electricity supply after each load-shedding cycle. The operating hours of

their business establishments were no longer the same but reduced. This reduction of operating hours was of concern, and it was evident in the following quotes:

'…Yes, it has. Remember we work up until late but because sometimes around 20H00 there's load-shedding. So, you can't work until late because of load-shedding…' ***[Participant 8].***

'Yeah, because it's not safe, right? Because it's going to be dark. So, we can't be operating by that time. We have to close' ***[Participant 13].***

'I can say quite bad. It's quite bad because sometimes you can even go for more than eight hours straight without electricity, so it's pretty bad' ***[Participant 11].***

'The problem we have is they take the electricity the most like the hours that we need that are crucial, that we need the electricity. That's when they take the electricity. So, on a normal day. I can say 12 hours, yeah. 12 hours and those 12 hours? Those are the hours we really need electricity' ***[Participant 4].***

'…for an example. You may find that you have got load-shedding from 9:00 am to 12:00 pm O'clock and then from there, and you know, you get in from 9:00 am until 4:30 pm. From 9:00 am to 12 pm it means the surgery is closed. There's no money getting in because you can't take chances. You cannot open somebody's mouth in a dark city, you can't. From there, it's going to operate from 12:00 pm until 14h00 pm, …after 14h00 pm it's gone again. So, in other words, what I can tell you is that the time frame that surgery is gonna work is only two hours for the whole day. You see. So, for the whole day' ***[Participant 12].***

'*Yes, load-shedding is really affecting our business. For example, when it is stage 6, the workers will have to sit for the whole four hours without doing any meaningful work…and they (workers) need their full pay because they reported for duty…and we have to give them full pay'* ***[Participant 9].***

It is evident that load-shedding results in critical operational challenges for SMMEs. It was clear that SMMEs were no longer able to conduct their business operations as

normal due to load-shedding which forced them to reduce their normal working hours and even to suspend certain operational activities which were solely reliant on electricity supply. This was confirmed by (Gusta 2020), who argued that SMMEs in South Africa are so reliant of electricity supply to the extent that during load-shedding, they are forced to halt their business operations. In a study conducted in the North-East of Nigeria, focusing on the impact of load-shedding on the operations of SMMEs, it was found that load-shedding has adversely disrupted their business operations and resulted in significant revenue losses (Ado & Mangai 2015). In their study, Nkwinika and Munzhedzi (2016:80) concluded that uninterrupted electricity supply is essential for effective and efficient business operations. This implies that interruptions brought about by load-shedding always trigger operational challenges.

RESEARCH OBJECTIVE 1.3.1.2 To assess the coping mechanisms currently used by SMMEs to sustain their business operations during load-shedding periods

In the following discussions, the study has focused on themes which emanated from research objective 1.3.1.2.

MAIN THEME 2 Coping mechanisms

MAIN THEME 2 has provided critical insight into various coping mechanisms currently utilised by SMMEs to sustain their businesses amid load-shedding. Two themes were derived from the findings, which are SUB-THEME 2.1 Drastic measures and SUB-THEME 2.2 Business continuity.

THEME 2.1 Drastic measures

Results have shown that load-shedding had serious disruptions on the SMMEs business operations, ultimately forcing them to take steps that they would not have to opt for under normal circumstances. In a similar study conducted in the La-Nkwantanang Madina Municipality in Ghana, it was found that SMMEs also resorted to several drastic measures such as retrenchments, reduction of salaries and the

introduction of night shift (Dunya et al 2019:84). In this study, only one sub-theme emerged, SUB-THEME 2.1.1 Close, stop or halt.

SUB-THEME 2.1.1 Close, stop or halt.

When there is load-shedding, SMMEs are forced either to close, stop, or halt their operations in many instances. The majority of SMMEs sampled have no alternative electricity supply, meaning that as soon as load-shedding kicks in, they are disabled from continuing with their daily operations and eventually compelled to close, stop, or halt their operations. The majority of these SMMEs have given up, to the extent of even insisting that there is nothing they can do to alleviate the situation but to sit and wait for the electricity supply to be restored. The following quotes reveal the lived experiences of the SMMEs:

'Sometimes it (electricity supply) goes it doesn't come in time as usual. So, we end up sitting doing nothing, waiting for the electric to come back. So that's another challenge we're having here' ***[P5].***

'…so, the higher the stage, the more the more we close our business. You just close. There's nothing that you can do. Yes, because when you open, you give the client a hope that you can help them. But without electricity you cannot. You know, we once had load-shedding for a week…for a week. So, I closed to my business for a week, totally closed. And if it's closed that means at the end of the month, because you hired the place at the end you have to pay the rent. So, how are you going to pay for it?' ***[Participant 12].***

'Like mainly here we work with the electricity. Everything needs electricity to cut. All these things need electricity. If there's no electricity, we cannot work, we just stop working' ***[Participant 10].***

'…sometimes we switch on our generator… but it is expensive because of the petrol' ***[Participant 13].***

'So now the biggest challenge is that I'm not, I cannot be able to work. I just sit. Because, as I'm saying, I'm an electrical technician, which means I use electricity mostly when I want to fix things or service things. So, whenever there is no electricity means there is no work. So, that affects a lot ***[Participant 6].***

'We are forced to use generators as back-up because we cannot afford to close our business…, but it is too costly. We have tried exploring the use of solar panels and we discovered that they are expensive, and they could not run our machines but the lights only' ***[Participant 9].***

It became evident that reliable and sustainable electricity is at the core operation of SMMEs. This implies that SMMEs are unavoidably dependent on electricity supply. In this study, the majority of SMMEs did not have productive coping mechanisms and were unfortunately forced to invoke drastic measures which saw them suspending or even closing business operations in response to load-shedding. A similar study was recently conducted at Collins Chabane Local Municipality, also focusing on the impact of load- shedding on SMMEs. In that study, the participants confirmed that when load-shedding commences, they are forced to close and only re-open later when electricity supply is restored (Mabunda et al 2023:10). Gusta (2020) affirms that the dependency of South African SMMEs renders them helpless during load-shedding, forcing them to halt business operations.

THEME 2.2 Business continuity

11 of the participants (78%) interviewed acknowledged that load-shedding will not end anytime soon and eventually found other means of maintaining business continuity. In other words, they were determined to minimise operational disruptions and keep their businesses afloat instead of giving up. Only one sub-theme was derived from this theme, SUB-THEME 2.2.1 Minimise dependency.

SUB-THEME 2.2.1 Minimise dependency

In the main, SMMEs utilised various mechanisms with an aim of minimising dependency on Eskom-City of Tshwane electricity supply, ranging from manual work,

using back-up electricity sources and generators, using laptops, cell phones and re-chargeable solar lights, leveraging resources within the value chain, planning adjustments. The following quotes contain evidence in this regard:

'We have a back-up machine, but it is only for the nails. For the hair we don't have a back- up machine. That's where we are having a problem' ***[Participant 8].***

'We had to opt to buy a laptop on the side…sometimes we just work manually' [Participant 11].

'We use the phone for the torch…' ***[Participant 8].***

'We also use load-shedding lights. They also help us, but they don't last until after two hours' ***[Participant 13]****.*

'Every day when there's load-shedding we use the generator' ***[Participant 10]****.*

'…they introduced us to the solar lights, the chargeable solar lights. We usually use chargeable solar lights for our testing rooms so that we be able to test our patients. But again, for the phones, we use our cell phones and usually our head office sends airtime for us to call the medical aid so that we'll be able to confirm the benefits. So, we use solar lights and mobile cell phones, not the telephones ***[Participant 7].***

Other SMMEs have also found ways to leverage existing resources within their respective value chains. For example, the medical practice was able to transfer patients to other medical facilities, carpenters also decided to have their material cut at the factory, taverns resorted to sourcing ice cubes from nearby bottle stores and filling stations, and the driving school have decided to perform some administrative functions at the City of Tshwane licensing offices. All these leveraging-oriented mechanisms are evident in the following quotes:

'…. we have to transfer patients to other institutions for them to get help…'; ***'…****we transfer them to other areas or other facilities. Yeah, we can't do anything at that moment'* ***[Participant 11].***

'Our material when we buy them, they cut to size for us, everything now we are doing in the factory. When we come here, it's just gonna be combining or assembling our components' ***[P5].***

'Sometimes I resort to sourcing of ice cubes just to push for the day' ***[Participant 2]****.*

'Every time there is load-shedding I am forced to go buy bags of ice blocks otherwise the business stops, and no money will come in' ***[Participant 1]****.*

'When there's load-shedding, mainly we can just go where there is a generator and borrow, then proceed with the work' ***[Participant 10].***

'When we want to make copies, we do them at the department' ***[Participant 14]****.*

[Participant 5] also acknowledged that load-shedding was there to stay and has thus developed a strategy to continuously incorporate load-shedding schedules into his daily operational planning. In other words, he has regularly been aligning his daily operational plans in line with City of Tshwane load-shedding schedules. Below is what he had to say:

'Now we are depending on the schedule, the one they put on the phone. You know when the electric system is going, and this time is coming back. That's how we work... Otherwise, if you don't have that schedule, you won't make it. Because by the time you think you're gonna work, it might be the time the electric is supposed to go. So, you must have that thing on your phone so that you can check at this time the electric is going. This time it's coming. Then you can program things' ***[Participant P5].***

It is evident that the majority of SMMEs were in favour of maintaining business continuity. In other words, they did not regard drastic measures as economically beneficial to their businesses. Moreover, there was a strong indication that SMMEs were innovative and have thus developed creative ways of minimising their dependency on the Eskom - City of Tshwane electricity supply. The fact that the study was able to identify up to eight ways of minimising dependency from a sample of 14

SMMEs, is evidence that load-shedding has put businesses in a difficult situation where they had little choice but to be creative if they were to survive.

In a similar study conducted at Collins Chabane Local Municipality, it was established that there were SMMEs (5%) which endeavoured to maintain business continuity by way of minimising their dependency on Eskom electricity supply, largely relying on back-up sources (Mabunda et al 2023:14). Another similar study was conducted in the La-Nkwantanang Madina Municipality in Ghana. In that study, it was found that SMMEs also pursued business continuity by using generators which minimised their dependency on the unreliable national electricity supply. However, this coping mechanism was deemed inefficient because of the high costs of fuel (Dunya et al 2019:84). In the premise, it is logical conclude that finding ways of maintaining business continuity by utilising strategies that minimise dependency is a credible and necessary coping mechanism, especially where the costs of using such mechanism are outweighed by the benefits.

RESEARCH OBJECTIVE 1.3.1.3 To explore the perspectives of SMMEs on possible strategies to alleviate the impact of load-shedding on their businesses

In the subsequent discussions, the focus has been on all the themes which were derived in the context of research objective 1.3.1.3.

MAIN-THEME 3 Perspectives

MAIN-THEME 3 gave insights into the perspectives of SMMEs on possible strategies to alleviate the impact of load-shedding on their businesses. All responses contained overwhelming perspectives on the need for the authorities to intervene and assist SMMEs. However, one theme eventually emerged, THEME 3.1 Government intervention.

THEME 3.1 Government intervention

All participants were of the view that the South African government was not doing anything to rescue their businesses. The participants were unapologetic and emphatic

on their stance that government has neglected their businesses. They were of the view that the government did not care about the sustainability of their SMMEs and was not doing anything neither to address load-shedding that has been severely impacting their businesses. The following quotes below captured the lack of assistance or intervention from government as perceived and expressed by participants:

'Now let me just be honest. The government now at this point, I feel like they are not doing anything about it because let me give an example. I feel like this load-shedding is something that is being controlled by them because if you can remember very well the time when there was World Cup, we didn't experience load-shedding, so I was asking myself…' ***[Participant 7].***

'For me, I don't see them doing anything at the moment… Yeah, I don't see them doing anything. We have since been waiting for government to assist us, we have not seen any movement. Maybe they are waiting for us to first vote and then they will consider us…we will see' ***[Participant 11].***

'Me I don't see anything…for now I don't see anything' ***[Participant 8].***

'For now, no one has ever told me anything, what the government is doing or if there are any strategies that were put in place to end this kind of load-shedding. So, I haven't heard anything so far, so I'll be lying if I know anything about that' ***[Participant 6].***

'Nothing at all. In fact, I think they are oppressing us. They need lot of things. That means money. So, I've come to say that there's something that helping us with. Yeah, they're demanding a lot of things that we need to comply. But…we are all by ourselves' ***[Participant 2].***

'I'm going to be clear here and I'm not going to be afraid of anything, right? I'm going to be open. The government…what I can say is not doing a thing. We were hoping that maybe they can come and uplift us, to come up with something that Is going to boost us here and there. But instead, they're doing the opposite. Government is doing the opposite ***[Participant 12].***

When expressing their perspectives on possible strategies, all participants did not hesitate to criticise the South African government, revealing that government was not doing anything about their circumstances. The unanimity in their criticism confirms that SMMEs were facing common sustainability challenges due to load-shedding. Moreover, the extent of criticism reveals that the government has not taken initiatives to rescue SMMEs in City of Tshwane from the impact of load-shedding. Besides direct and unapologetic criticisms, their expressions confirm that they urgently need government's intervention. It was also notable from the responses that participants did not specifically mention which level of government they expect intervention. In other words, they did not mention national, provincial nor local government.

A related study was conducted in the La-Nkwantanang Madina Municipality in Ghana. In that study, it was concluded that it was incumbent on the Ghanaian government to intervene through appropriate measures and rescue the SMME sector (Dunya et al 2019:84). In South Africa, SMMEs have been formally recognised through an Act of Parliament, the National Small Business Act. In 2014, the South African government also established the Ministry of Small Business Development (Naicker & Rajaram 2018:96). Over the years, probably in view of their contribution to the national economy, the South African government has continuously sought to develop and support the SMMEs (Bruwer & Coetzee 2016:202).

Despite these structural arrangements, the actual recipients of electricity supply, in this instance SMMEs, were of the view that the government was not supporting them, other than being oppressive. In the main, all participants were concerned about lack of government assistance and thus called for their intervention. In the recent fierce legal battle, the Hight Court sitting in Pretoria has ordered the South African Government to intervene (South Africa 2023). Two sub-themes emerged and included SUB-THEME 3.1.1 End load-shedding and SUB-THEME 3.1.2 Subsidise alternative sources.

SUB-THEME 3.1.1 End load-shedding

All the participants expressed that they were unable to rescue themselves from the impact of load-shedding and were unambiguous that they want government to start

prioritising SMMEs and ending load-shedding. For them, electricity was critical for their businesses. Moreover, participants were not optimistic about temporary reliefs such as financial assistance, but an end to load-shedding. Clearly, their position was that the government should intervene and rescue their SMMEs from the impact of load-shedding. The following quotes provide evidence of the participants' perspectives in this regard:

'They must stop load-shedding. Mostly they must stop the load-shedding so that we can go forward with the business you see' ***[Participant 10].***

'I think the government must consider making a plan about load-shedding. They must consider small businesses. Yeah, because getting out of this on our own, it's really tough. So, I think we need the government support on this' ***[Participant 9].***

'OK, I think if they can help fix the load-shedding problem. That would be great. Any other plans that we may think of…may be temporary because even if they can help us financially, but the cost of living is high, all we need is electricity. Yeah, all we need is electricity' ***[Participant 4].***

The idea of ending load-shedding emerged as the main priority for all participants. The assertions strongly suggested that load-shedding has already crippled their business and they no longer wanted anything about it. However, the participants did not make any suggestion on how load-shedding could be ended. In a similar study the was conducted at Collins Chabane Local Municipality, one of the recommendations was that ending load-shedding would require the reliable and sustainable electricity supply (Mabunda et al 2023:3).

During the preparation of the SoNA 2023, the South African Local Government Association (2023) pronounced their expectations in a media statement. One of the expectations was for the President of South Africa to come up with plans to end load-shedding which has severely impacted SMMEs nationwide. Similarly, in this study, SMMEs were also calling for the government to intervene by ending load-shedding. In a recent court case, load-shedding was declared unconstitutional, and the South African government was ordered to put an end to it (South Africa 2023). One may

therefore conclude that the call by SMMEs in this study, for an end to load-shedding is logical, reasonable, and legally sound.

SUB-THEME 3.1.2 Subsidise alternative sources

Twelve participants were emphatic that government should consider assisting SMMEs with generators or solar panels as alternative sources of electricity. However, 36% of the twelve participants acknowledged that although generators can be an alternative, the running costs of fuel were unfordable during these turbulent economic times. The following quotes provide insights into the participants' perspectives on possible alternative sources:

*'I don't know. If it's possible that they can subsidise us with generators, better generators maybe? Those which are powerful enough to run at least two fridges. Then I think that can be much better. Because right now, these generators are very expensive' [**Participant 2**].*

*'…and it will really make us to understand that when we pay taxes, when we pay taxes, this is money for our taxes. So, I think even if they can say this is a generator, just produce the letter or the certificate that you have got a valid business, the business is operating. Then when you buy this, you're going to pay a smaller amount, and the government is going to subsidise. That will be much better. I can't just say we can get, or they must give us for free. You understand? But a certain amount to show that now our government is really taking care of us, they really understand. So, but nothing is happening my brother…nothing' [**Participant 12**].*

*'We don't have even access to buy the generator, so even the government, I don't know if it can help' [**Participant 5**].*

*'…solar…what you call them…solar panels? Even if they are too expensive, but I feel like investing in those will make our business much better. Or maybe buying generators as well for backup? **[Participant 7].***

*'…. especially the generators they are nice if you got them' [**Participant 5**].*

*'The only thing that can rescue the business is to get myself a big generator that will push all these fridges…that's the only solution if ever I can get hold of the big generator because I will sell even when there is no electricity, even though it's gonna cost me the petrol' [**Participant 2**].*

*'…it does not assist because we are putting petrol. The generator is slow than electricity. That is what is happening. So, we end up losing a lot of money with that load-shedding [**Participant 10**].*

*'Solar panels could help. They could really help us. We must stop using our generators because they use a lot of petrol and it's expensive' [**Participant 13**].*

*'…the government has tried before the start of load-shedding. They put solar geysers, but it's not enough. I can have water from the solar geyser, but there is no backup now for using a hair dryer. We need electricity and it's affecting a lot [**Participant 4**].*

Considering the on-going state of electricity supply in the country, with no hope that load-shedding may end soon, SMMEs were hoping to be assisted by the government with alternative electricity supply sources. Participants have mentioned two possible sources, being generators and solar panels, which they were hopeful could assist to get their businesses operating in the meantime. It was evident that participants had a common expectation that government should intervene and provide them with generators, with some participants saying that even if the provision is in the form of subsidy of some sort. It became clear that participants do not have adequate financial capacity to procure generators and solar panels, hence their hope on the government's intervention. Some of the participants, e.g. *[**Participant 13**]* who have tried using borrowed generators were worried about the running costs been exorbitant, even contemplating must cease using them in favour of solar panels.

In the main, all participants were of the view that government should intervene and assist them to acquire generators and solar panels because they could not afford on their own because of financial challenges already alluded to in SUB-THEME 1.1.1 Financial, above. According to Mkhwebane and Ntuli (2019:144), SMMEs are not

capable of procuring alternative sources of electricity such as generators and solar panels on their own because of various limitations, including limited access to capital and the mainstream value chain. In a related study recently conducted at Collins Chabane Local Municipality, which found that many SMMEs did not have alternative sources such as solar panels and generators because of financial constraints, recommended that the South African government should subsidise SMMEs to acquire alternative sources or back-ups such as solar panels and generators (Mabunda et al 2023:17). A similar study was conducted in the La-Nkwantanang Madina Municipality in Ghana. In that study, it was also recommended that government should subsidise SMMEs towards the cost of running generators during load-shedding (Dunya et al 2019:84).

In the case of United Democratic Movement and Others v Eskom Holdings SOC Ltd and Others, the High Court ordered the South African government to provide alternative sources of electricity to health facilities, police stations and public schools (South Africa 2023). The are three health facilities that participated in this study: dental practice ***[Participant 12]*****,** optometry practice ***[Participant 7],*** as well as the general medical practice ***[Participant 11]***. All these three health facilities (SMMEs) expressed their frustrations about various sustainability challenges imposed by load-shedding. Noticeably, all these three SMMEs also expressed their wish for government intervention by way of providing alternative sources. It may thus be concluded that an alternative source of electricity or back-up is a critical requirement for SMMEs amid these turbulent load-shedding times. Considering the critical role of SMMEs in the country's GDP, it is thus justifiable and warranted that the South African government should intervene and rescue the SMME sector.

4.5 CONCLUSION

Chapter Four encompassed a detailed analysis, presentation, and discussion of the results obtained from the study. In this chapter, the data collected from SMMEs within the City of Tshwane metropolitan area were thoroughly analysed to uncover patterns, themes, and deeper insights, particularly focusing on the impact of load-shedding on these businesses. The discussion in Chapter Four extended to interpreting these results, juxtaposing them with relevant and contemporary literature to provide a well-rounded understanding of the findings. As we transition from the analytical depths of Chapter Four, the study now moves towards its culmination in the concluding chapter. This final chapter will synthesise the key findings, draw conclusions based on the research objectives, and discuss the implications of the study. It will also offer recommendations based on the analysis and suggest areas for future research. This concluding chapter aims to encapsulate the essence of the study, providing closure to the research journey and offering valuable insights for stakeholders, policymakers, and the academic community.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

As we enter the concluding chapter of this study, it serves as the culmination of the research journey undertaken. This chapter does not introduce new information; instead, it synthesises and recapitulates the key elements of the study. The purpose here is to provide a concise overview of the entire research process, from the initial objectives and research questions to the methodologies employed and the findings derived. The chapter will present a summary of the significant findings, highlighting how they contribute to our understanding of the impact of load-shedding on SMMEs within the City of Tshwane metropolitan area. It will also critically examine the limitations of the study, acknowledging the constraints and challenges encountered during the research process. This reflective analysis is essential for contextualising the findings within the broader scope of the research field. Furthermore, the chapter will offer recommendations for future research, suggesting avenues for further investigation that could build upon the insights gained from this study. These recommendations aim to provide a roadmap for subsequent studies and to encourage continued exploration of this critical topic. Finally, the chapter will draw final conclusions, encapsulating the essence of the research and its contributions to both academic knowledge and practical application in the field of economic and management sciences, specifically in the context of load-shedding and its impact on SMMEs.

5.2 BRIEF OVERVIEW OF THE STUDY

Having identified the problem of load-shedding in City of Tshwane, the main purpose of this study was to explore its impact on SMMEs operating within the City of Tshwane metropolitan area, with a view to formulating and recommending possible strategies that are likely to enhance the sustainability of these SMMEs. In terms of the paradigm, the study's orientation leaned towards interpretivism, constructivism and the role of theory in relation to research was predominantly inductive. So, in line with this

orientation, the study took a qualitative approach and utilised semi-structured in-depth interviews with 14 SMMEs. A total of three objectives guided the study and the findings have been summarised in the following discussion.

5.3 SUMMARY OF FINDINGS

The empirical study findings have been organised in respect of the following founding objectives.

RESEARCH OBJECTIVE 1.3.1.1 To establish the challenges faced by SMMEs due to load-shedding.

RESEARCH OBJECTIVE 1.3.1.1 focused on establishing the types and intensity of challenges that SMMEs operating within City of Tshwane have been facing due to load-shedding. Key findings revealed that SMMEs have been grappling with sustainability challenges. There are three sustainability challenges which have been problematic for SMMEs, including financial, customer relations and operational challenges.

The findings revealed that SMMEs are facing serious sustainability challenges in respect of their financial circumstances which were found to be dire. SMMEs were no longer profitable, and their cash flow and capital capacities were at their lowest since the emergence of load-shedding. SMMEs could even afford to purchase alternative electricity supply sources such as generators and solar panels. Even those with generators were battling with the cost of fuel. It was evident that, financially, SMMEs were no longer sustainable.

The second sustainability challenge SMMEs were facing was customer relations. SMMEs have been finding it difficult and sometimes impossible to attract and retain customers. Instead, they have been experiencing a steady decline in the number of customers visiting their business establishments. In the main, because of the inconveniences brought by load-shedding, it was no longer possible for SMMEs to offer even the minimum level of customer service. This in turn had a collateral negative

impact on the SMMEs' income generating opportunities as customers were no longer visiting and when they did, they could not receive the services nor goods they wanted.

The third sustainability challenge was predominantly operational. The study discovered that SMMEs experienced serious operational disruptions. Their operational routines and schedules were adversely impaired. Core business operations could no longer be performed, particularly during unplanned and higher stages of load-shedding. All these challenges have severely impaired the sustainability of SMMEs.

The findings in this study, as it relates to challenges faced by SMMEs due to load-shedding, is corroborated by similar studies which confirm that SMME sectors in African countries such as Ghana and Nigeria experienced financial and operational challenges due to load-shedding (Ado & Mangai 2015; Dunya et al 2019:84). Moreover, the load-shedding challenges were acknowledged by the South African Local Government Association (2023), to the extent that they called for President Ramaphosa to expedite mitigation measures. Moreover, during the periods where China faced electricity supply and resorted to load-shedding measures, their SMME sector also faced sustainability challenges (Wang et al 2010:1593). It is thus evident the load-shedding creates sustainability challenges for SMMEs around the world. This impact confirms that SMMEs require stable electricity supply, without which their contribution to the economy may be compromised.

RESEARCH OBJECTIVE 1.3.1.2 To assess the coping mechanisms currently used by SMMEs to sustain their business operations during load-shedding periods.

Having explored challenges encountered by SMMEs as summarised in the preceding discussions, RESEARCH OBJECTIVE 1.3.1.2 went further to assess the coping mechanisms currently used by SMMEs to sustain their business operations during load-shedding periods. The study found that SMMEs follow two main approaches to coping with the load-shedding, being 1) Drastic measures and 2) Business continuity.

SMMEs following drastic measures were those that acted helplessly as if they had no option. Their mechanisms involved either closing their businesses for the day or halt

operations with an aim of resuming upon the end of load-shedding cycle. Put simply, those SMMEs did not attempt to strategise or seek alternatives in favour of keeping their businesses afloat.

However, the majority of SMMEs seem to have realised that it was better to strategise than to let their businesses collapse during load-shedding. In the main, the majority of SMMEs preferred business continuity instead of suspending or halting their operations. What these SMMEs have been doing was to employ various mechanisms which enabled them to minimise dependencies on the Eskom – City of Tshwane electricity supply. Among the mechanisms utilised include leveraging of resources within their respective value chains, usage of alternative or back-up electricity supply, and resorting to manual work where it was possible. Some have even adapted and aligned their operations in sync with the load-shedding schedules.

The finding in this study, with respect to copying mechanisms utilised by SMMEs, is corroborated by similar studies conducted in other South African provinces. In a study conducted in Pietermaritzburg in the Kwa-Zulu Natal Province of South Africa (Tembe & Hlengwa 2022:1020), it was found that SMMEs also relied on alternative electricity sources such as generators. Similarly, in another study conducted in Gqeberha, in the Eastern Cape Province of South Africa (Olajuyin & Mago 2022:2), SMMEs were found to be reliant on alternative electricity supply sources such as solar panels and generators and adapted their business operations to maintain continuity during load-shedding periods. However, in a study conducted in Collins Chabane Local Municipality in the Limpopo Province of South Africa (Mabunda et al 2023:11), it was found that only 5% of SMMEs used alternative electricity sources and the majority had financial constraints to acquire alternative sources. So, it appears to be a common copying mechanism to rely on alternative electricity supply sources. However, financial constraints made it difficult for many SMMEs to acquire ideal sources.

RESEARCH OBJECTIVE 1.3.1.3 To explore the perspectives of SMMEs on possible strategies to alleviate the impact of load-shedding on their businesses.

The rationale behind RESEARCH OBJECTIVE 1.3.1.3 was to obtain ideas on what SMMEs thought needs to be done or put in place to alleviate the impact of load-shedding on their businesses and the SMME sector at large. The key finding here was that SMMEs needed the South African to intervene in their situation. The study also found that the South African government has not intervened to assist SMMEs operating within City of Tshwane since the crisis of load-shedding emerged. There were two things which SMMEs hoped their government to do, 1) To end load-shedding and 2) To subsidise acquisition of alternative sources.

SMMEs were of the view that the priority should be for the government to end load-shedding. However, it was evident that SMMEs did acknowledge that load-shedding will not end soon. So, in the meantime, that is, while the government pursues the process of ending load-shedding, they must assist SMMEs in the acquisition of alternative sources. The study also established that SMMEs did not necessarily expect the government to give them generators and solar panels for free, hence the proposal of subsidies.

In the previous studies consulted, the participants do not emphasise that their government should end load-shedding as those in this study. However, they concur with this study regarding the use of alternative electricity supply sources and that government should subside the acquisition. For example, in a study that was conducted in Madina in La-Nkwantanang Municipality, located in the Greater Accra region of Ghana (Dunya et al 2019:84), participants were of the view that the Ghanaian government should intervene through capital investments for the development of solar power infrastructure. In another study conducted by Mabunda et al (2023:17) within Collins Chabane Local Municipality, participants recommended that the South African government should subsidise every SMME to acquire alternative electricity supply source. In a study conducted in Pietermaritzburg in the Kwa-Zulu Natal Province of South Africa (Tembe & Hlengwa 2022:1020), the participants recommended that SMMEs should acquire alternative electricity supply sources and acquire insurance to enhance their sustainability even during load-shedding periods.

5.4 STUDY LIMITATIONS

Generally, research studies are characterised by some degree of weakness, also known as study limitations (Leedy & Ormond 2019:63). In this study, the only limitation was the lack of financial resources in the beginning, which were needed for travelling across the seven City of Tshwane regions while conducting data collection. However, this was eventually overcome on time, and data was successfully collected.

5.5 RECOMMENDATIONS

The study recommends the following measures or strategies as being likely to enhance the sustainability of SMMEs operating within City of Tshwane metropolitan municipality:

- The South African government should consider reaching out to the SMME sector and be seen to be intervening in real sense.
- The South African government should make it their priority to end load- shedding.
- While endeavouring to end load-shedding, the South African government should assist SMMEs in the acquisition of alternative sources of electricity supply, even if it is through subsidies.
- Eskom and City of Tshwane should consider reducing stages of load-shedding during the day to allow SMMEs to operate at their full capacity.
- SMMEs are advised to collaborate, assist each other, and innovate with a view of maintaining business continuity while the government deals with the load- shedding crisis.
- Future research that would focus on investigating challenges contributing to the lack of government intervention in the SMME sector is recommended.

- Lastly, the study recommends future research that should focus on finding effective and efficient coping mechanisms for SMMEs.

5.6 CONCLUSION

In the premise, it is concluded that the main purpose of the study was achieved successfully and in full. In other words, the impact of load-shedding on SMMEs operating within the City of Tshwane metropolitan area has been fully and successfully explored as intended. Moreover, seven possible strategies that are likely to enhance the sustainability of SMMEs have been formulated and recommended. All the three study objectives were pursued successfully and without any significant limitation. As for the key research questions, all three of them were answered comprehensively, completely, and satisfactorily. Lastly, the study has provided critical insight into the impact load-shedding has had on SMMEs operating within the City of Tshwane metropolitan area. Lastly and most importantly, the study was a success and constitutes a critical contribution to the existing body of knowledge.

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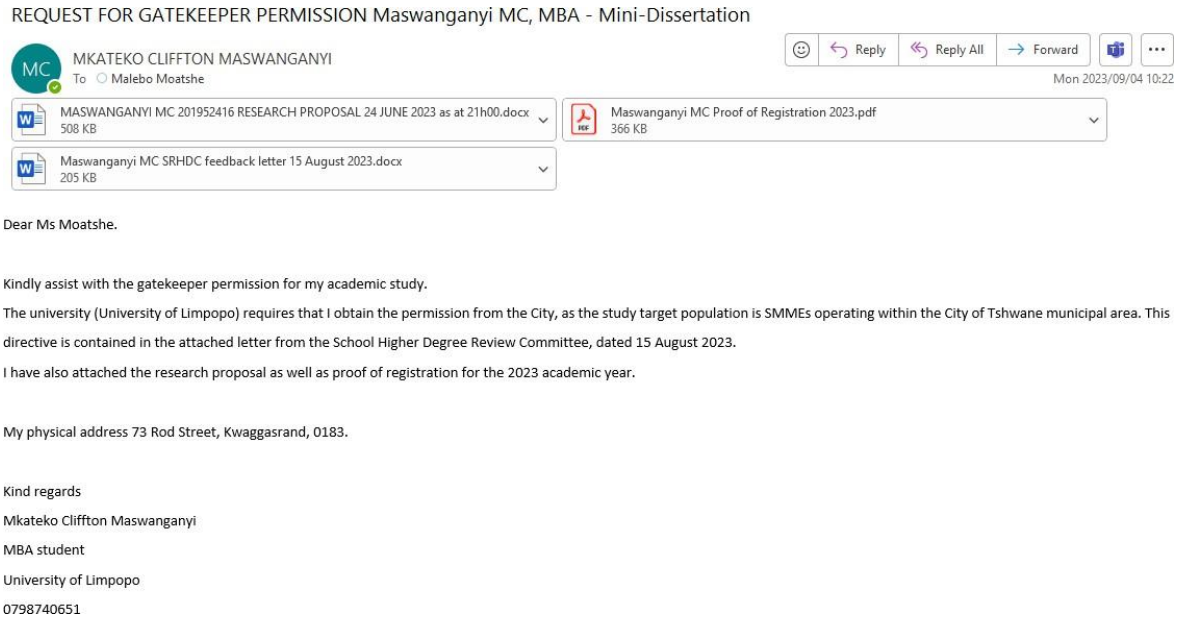
7 ANNEXURES

Annexure A - Email seeking gatekeeper permission



REQUEST FOR GATEKEEPER PERMISSION Maswanganyi MC, MBA - Mini-Dissertation

MC MKATEKO CLIFFTON MASWANGANYI

To Malebo Moatshe

Reply | Reply All | Forward

Mon 2023/09/04 10:22

MASWANGANYI MC 201952416 RESEARCH PROPOSAL 24 JUNE 2023 as at 21h00.docx 508 KB

Maswanganyi MC Proof of Registration 2023.pdf 366 KB

Maswanganyi MC SRHDC feedback letter 15 August 2023.docx 205 KB

Dear Ms Moatshe.

Kindly assist with the gatekeeper permission for my academic study.

The university (University of Limpopo) requires that I obtain the permission from the City, as the study target population is SMMEs operating within the City of Tshwane municipal area. This directive is contained in the attached letter from the School Higher Degree Review Committee, dated 15 August 2023.

I have also attached the research proposal as well as proof of registration for the 2023 academic year.

My physical address 73 Rod Street, Kwaggasrand, 0183.

Kind regards

Mkateko Cliffton Maswanganyi

MBA student

University of Limpopo

0798740651

Annexure B - Letter of approval - Gatekeeper permission: City of Tshwane

CITY OF TSHWANE
IGNITING EXCELLENCE

City Strategy and Organizational Performance

Room RD 17 | Ground Floor, West Wing, Block D | Tshwane House | 320 Madiba Street | Pretoria | 0002
PO Box 440 | Pretoria | 0001
Tel: 012 358 2182
Email:ThabisaMb@tshwane.gov.za | www.tshwane.gov.za | www.facebook.com/CityOf Tshwane

My ref: **Research Permission/ Maswanganyi**
Contact person: **Pearl Maponya**
Section/Unit: **Knowledge Management**

Tel: 012 358 4559
Email: PearlMap3@tshwane.gov.za
Date 05 September 2023

Mr Mkateko Cliffton Maswanganyi
73 Rod Street
Kwaggasrand
0183

Dear Mr Mkateko Cliffton Maswanganyi,

RE: EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MEDIUM, AND MICRO ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA OF GAUTENG PROVINCE

Permission is hereby granted to Mr Mkateko Cliffton Maswanganyi, Master of Business Administration degree candidate at the University of Limpopo (UL), to conduct research in the City of Tshwane Metropolitan Municipality.

It is noted that the purpose of the study is to explore the impact of load-shedding on SMMEs operating within the City of Tshwane metropolitan area, with a view to formulating and recommending possible strategies which are likely to enhance the sustainability of these SMMEs. The City of Tshwane approves the use of its name in the study and further notes that all ethical aspects of the research will be covered within the provisions of UL Research Ethics Policy. You will be required to sign a confidentiality agreement with the City of Tshwane prior to conducting research.

Relevant information required for the purpose of the research project will be made available as per applicable laws and regulations. The City of Tshwane is not liable to cover the costs of the research. Upon completion of the research study, it would be appreciated that the findings in the form of a report and or presentation be shared with the City of Tshwane.

Yours faithfully,

PEARL MAPONYA (Ms.)
DIRECTOR: KNOWLEDGE MANAGEMENT

Annexure C - TREC approval letter – University of Limpopo

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: tukiso.sewapa@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE

ETHICS CLEARANCE CERTIFICATE

MEETING: 04 December 2023

PROJECT NUMBER: TREC/1675/2023: PG

PROJECT:

Title:	Exploring the impact of load-shedding on Small, Micro and Medium Enterprises operating within the City of Tshwane Metropolitan Area
Researcher:	MC Maswanganyi
Supervisor:	Prof MM Kanjere
Co-Supervisor/s:	N/A
School:	Turfloop Graduate School of Leadership
Degree:	Master of Business Administration in Business Administration

PROF D MAPOSA
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:
i) **This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.**
ii) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.**
iii) **PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.**

Finding solutions for Africa

Annexure D – Interview guide

INTERVIEW GUIDE

EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MEDIUM, AND MICRO ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA

1. What is your knowledge on load-shedding in this area?
2. Which challenges would you say have resulted from load-shedding?
3. Which of those challenges have had an impact on your business?
4. How has load-shedding impacted your business?
5. What are you doing to address or alleviate the impact of load-shedding on your business?
6. What would you say the government is doing to address load-shedding in your area?
7. What do you think needs to be done or put in place to address the impact of load-shedding on businesses?

This signifies the end of this interview. Thank you for your time. You are free to share any additional relevant information.

Annexure E – Invitation to participate

INVITATION TO PARTICIPATE

EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MEDIUM, AND MICRO ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA.

Dear Participant

Thank you for availing yourself for this interview, which forms an integral part of the academic research study that is geared towards exploring the impact of load-shedding on small, medium, and micro enterprises operating within the City of Tshwane metropolitan area of Gauteng Province. Your honest opinion on the aspects that would be asked during the interview is all that is required from you. In essence, there are no wrong or right answers. Kindly note that the researcher intends to use a tape recorder throughout this interview to collect data. This is strictly done for the purpose of accurately capturing all the information presented and not to incriminate nor prejudice you in any way. Your permission to use the tape recorder in this interview is thus sought.

Please be informed that your identity will remain anonymous and that your participation in the study is voluntary. You are also free to withdraw from participating in this study at any point in time.

Thanking you in advance.

Mkateko Cliffton Maswanganyi

INFORMATION WORTH NOTING:

This interview is anticipated last for about 20 minutes or so. You are requested to answer all the questions to the best of your knowledge and understanding. You will not be held liable for providing any form of answer whatsoever. Your participation is fully protected by law and the Constitution.

Annexure F – Biographical information

BIOGRAPHICAL INFORMATION

Kindly provide the following biographical information to the researcher.

1. Gender

Male	Female	Other (please specify)

2. Race

African	White	Indian	Coloured	Other (please specify)

3. Age in years

21-29	30-39	40-49	50-59	60 and above

4. Highest qualification

Up to Matric	Post Matric Certificate/Diploma	Bachelor/BTech Degree	Honours	Masters and above

5. Position within the SMME business

Owner	Partner	Manager

6. Nationality

South African	Other (please specify)

7. Experience in running/heading/operating/owning the SMME business

1 - 5	6 -10	11 – 15	16 - 20	Above 20

Annexure G – Consent form

CONSENT FORM

Name of the Researcher	**Mkateko Cliffton Maswanganyi**
Title of the study	**Exploring the impact of load-shedding on small, medium, and micro enterprises operating within the City of Tshwane metropolitan area.**

Dear Participant

You are hereby requested to give your consent to participate in the study. If you are willing kindly complete the form below.
Kindly note that the information that you will provide, will be treated with confidentiality and for the study purposes only. You will also not be named in any written work arising from the study. Should you require further clarity, you are free to discuss your concerns with the researcher.

I, ---------- give my consent to participate in the study titled; '**Exploring the impact of load-shedding on small, medium, and micro enterprises operating within the City of Tshwane metropolitan area'.**

I am aware that my participation in the study is voluntary and that I am free to withdraw my participation at any time.

Signature_____

Date_____

Annexure H – Language Editor confirmatory letter

STADCO Creatives!
Editors and Content Creators

33 Adams Crescent, Sherwood,
Durban 4091

To whom it may concern:

This document certifies that the dissertation whose title appears below has been edited for proper English language, grammar, punctuation, spelling, and overall style by Augustine Shamuyarira, a member of STADCO Creatives who is a qualified journalist with vast editorial experience.

Title:

EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMALL, MEDIUM, AND MICRO ENTERPRISES OPERATING WITHIN THE CITY OF TSHWANE METROPOLITAN AREA

Author:

MKATEKO CLIFFTON MASWANGANYI
(201952416)

Date Edited:

15 January 2024

Signed:

Augustine Shamuyarira

078 506 5610

Annexure I – Similarity Index Report