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Ndlovu, Zithulele Sizwe

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CHARACTERISTICS AND STRATEGY OF SMEs IN GAUTENG AND THEIR RESILIENCE IN RESPONSE TO CRISES

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation

Student

Zithulele Sizwe Ndlovu

Supervisor

Prof. Boris Urban

Wits Business School

February 2023

DECLARATION

I, Zithulele Sizwe Ndlovu declare that this Master of Management in Entrepreneurship and New Venture Creation Research Report is my own work, except where referenced or acknowledged. It was submitted to the Faculty of Commerce, Law and Management at the University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation. This research report has not been submitted before to this or any other university for any qualification.

Zithulele Sizwe Ndlovu



Date: 27th of February 2023

Place: Johannesburg, South Africa

ABSTRACT

The SME sector in Gauteng is well known for its vibrant entrepreneurial culture. For the longest of time, SMEs in the Gauteng Province have been at the centre of SME growth in South Africa. However, since the first case of the coronavirus in the country close to three years ago, the sector has faced a myriad of challenges as a result of the COVID-19 national lockdown. In addition to that, just as things were starting to pick up with regard to business operations the sector was confronted with yet another crisis, only this time the crisis was in the form of load shedding.

The main research objective for this study was to examine the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province. A quantitative research approach was adopted for the purpose of this study. The total number of SME Owner-Managers that participated in this study were 71. The main findings of this study indicated that the impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province was statistically non-significant however, the impact of SME firm strategy in response to crises on SME resilience in the Gauteng Province was statistically significant.

Keywords: Firm characteristics; firm strategy; SMEs; organisational resilience; crisis management; Gauteng Province.

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DEDICATION

I would like to dedicate this Master of Management in Entrepreneurship and New Venture Creation Research Report to all my ancestors (ekhaya koMama nasekhaya koBaba).

I would also like to dedicate this Research Report to my parents (my role models) starting with my beautiful mother. Thank you for raising me into the young man that I am today, I am truly blessed to have you as my mother – Ngiyabonga kakhulu Shenge! To my dear father, thank you for the wisdom you've imparted on me as a young man – Ngiyabonga kakhulu Shandu kaNdaba!

Furthermore, this Research Report is dedicated to my external family whom have assisted me in my personal, academic, and professional life. As the famous African Proverb goes, "If you want to go fast, go alone. If you want to go far, go together."

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The SME sector in South Africa is well known for its role as a catalyst for driving meaningful socio-economic transformation. It is inarguable that the SME sector in South Africa plays a pivotal role in the growth of the country's economy. The SME sector in South Africa contributes around 34% toward the country's national Gross Domestic Product (GDP) (International Finance Corporation, 2018). Furthermore, it is responsible for the creation of around 50 to 60 percent of jobs in the country (Kalidas, Magwentshu, & Rajagopaul, 2020). According to Coad, Frankish, Roberts, and Storey (2013) SME growth has been proven to have a positive influence on employment.

In recent years however, the sector has been confronted by a myriad of challenges which have ultimately turned into crises (notably, the current energy crisis in South Africa). As a result, this has led to the untimely demise of many SMEs in the country. During the President of South Africa's seventh State of the Nation Address (SONA) in February 2023, the President declared the rolling blackouts (i.e., load shedding) in South Africa as a National State of Disaster (Khumalo, 2023), similar to the one that he pronounced in March 2020 during the COVID-19 lockdown. As a part of the measures said to be implemented during this National State of Disaster will be the appointment of a Minister of Electricity in the Presidency, whose sole responsibility will be to eradicate load shedding in the country.

Furthermore, the discovery of the novel Coronavirus (COVID-19) back in December 2019 caused a global health crisis of disproportions, leading to the decimation of various parts of society. The COVID-19 pandemic exacerbated the existing socio-economic inequities, and has further impacted negatively on the growth and development of SMEs across Sub-Saharan Africa (Ganum & Thakoor, 2021; Makumi, Kimotho, & Sissay, 2021). As a result, this study sought to examine the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province

In this opening chapter, the context and background of this study is given. In addition to that, this chapter touches on the context of this study, the theories that underpinned this study, the motivation and problem statement for this study, the research purpose, research questions and aims of this study, the delimitations of this study, the conceptual definitions of key terms in this study, as well as the contributions of this study toward entrepreneurship literature.

1.2 Context of the study

Since the first case of the Coronavirus (COVID-19) in South Africa was reported on the 5th of March 2020 in the KwaZulu-Natal Province (National Institute for Communicable Diseases, 2020), approximately 40% of SMEs (Small and Medium-Sized Enterprises) in South Africa have been forced to close down their businesses due to the severe economic impact caused by the global pandemic (United Nations Development Programme South Africa, 2021). In addition to this, it has been projected that approximately 60% of SMEs in South Africa will not survive by the end of the COVID-19 pandemic (Kalidas et al., 2020).

To make matters worse, South Africa is facing its biggest energy crisis to-date. The recent spate of load shedding implemented by the country's largest power utility (Eskom) is costing the South African economy around R950 million a day when Stage 4 load shedding is implemented, and over R4 billion a day when Stage 6 load shedding is implemented (Naidoo & Matshoba, 2022). As it stands, Stage 6 load shedding is the highest form of implemented load shedding in South Africa to-date. Stage 6 load shedding simply means that South Africans are without electricity for at least 6 hours a day (Al Jazeera, 2022). This study sought to examine the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province.

As it stands, the SME sector in South Africa is in a dire state. For the longest of time, the SME sector in South Africa has faced numerous challenges with regard to its development and growth. Challenges with the existing policy framework for South African small businesses (i.e., the South African Empowerment Policy Framework), access to financial capital (i.e., loan facilities and funding), access to intellectual capital (i.e., patents) for research and development (R&D) purposes, just to name a few. Despite these challenges however, SMEs in South Africa still continue to play a crucial role in the growth of the South African economy.

Approximately 50 to 60 percent of jobs created in South Africa are created by SMEs (Kalidas et al., 2020). Furthermore, the current state of unemployment in South Africa stands at approximately 33.9% (Statistics South Africa, 2022) therefore, signalling a call-to-action for SMEs to continue to create employment in the country. Entrepreneurship is considered as the lifeblood of the South African economy therefore, it is crucial that serious attention is given to ensure that the SME sector in the country continues to drive revenue for the country's economy, and most importantly create the much-needed jobs in the country.

Gauteng is known as the economic hub of South Africa, contributing a staggering R1.59 trillion toward the country's national Gross Domestic Product (GDP) in 2017 (Global African Network Media, 2022). The largest SME sector in the Gauteng Province is the trade and accommodation sector – which comprises of more than 260 000 SMEs, whilst the smallest SME sector in the province is the electricity, gas and water sector which comprises of approximately 4 500 SMEs (Small Enterprise Development Agency, 2021). In addition to this, Gauteng has the largest amount of SME owners in South Africa with approximately 34% of SME owners operating within the Gauteng Province (SEDA, 2021). The province with the least amount of SME owners in the country is the Northern Cape with approximately 1% of SME owners operating within the province (SEDA, 2021). Due to the several disruptions caused by the COVID-19 lockdown however, the trade and accommodation sector was the hardest hit sector in the country losing around 81 and 41 percent of revenue during level 5 and level 3 lockdown respectively (UNDP South Africa, 2021).

When it comes to the current energy crisis in South Africa, Eskom has had to reduce its electricity supply to various parts of the country through the implementation of load shedding. Load shedding refers to the reduction of electricity supply to the general public through the implementation of scheduled power outages to ensure stability in the country's electricity grid (City of Johannesburg, n.d.). Since the re-emergence of load shedding in South Africa in the second quarter of 2022, it was unclear what the impact of this was on SME resilience in the Gauteng Province.

During the lockdown period (which began on the 26th of March 2020 and ended on the 4th of April 2022) (South African Government, 2022), Gauteng was one of the provinces in South Africa that was the hardest hit by rising COVID-19 cases in the country (NICD, 2022). Gauteng has accounted for over 1 million positive COVID-19 cases out of around 4 million positive COVID-19 cases in the country thus far (SA Corona Virus Online Portal, 2023). This made it extremely difficult for Gauteng residents to manoeuvre around freely as the province mostly found itself on high lockdown alert levels in order to curb the spread of the virus. Furthermore, the lockdown regulations that were gazetted by the Department of Cooperative Governance and Traditional Affairs (CoGTA), stipulated that South African citizens should only leave their places of residents to buy essential goods or seek essential services (SA Corona Virus Online Portal, 2020).

Prior to COVID-19 in South Africa, load shedding had dealt some serious blows to the Gauteng provincial economy, with an estimated R60 billion to R120 billion loss of total revenue in 2019 due to the constant power outages (Mahlaka, 2021). Load shedding is said to be one of the biggest (if not the biggest) threats to the development and growth of the SME sector in South Africa. As the country's largest provincial economy begins to pick up the pieces from the devastation caused by the COVID-19 pandemic, it became crucial to examine the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province. Load shedding is said to continue to occur in South Africa until 2027 (Nyathi, 2022) therefore, it is crucial for SMEs to have measures in place to mitigate the impact of future "blackouts" on their ability to perform. Furthermore, if the energy crisis in South Africa is not resolved in the immediate future, it can be assumed that the future of SMEs in South Africa could potentially be doomed.

1.3 Theoretical foundation

The theories that underpinned this study were enterprise growth, crisis management and organisational resilience (See **Chapter 2**). Enterprise growth refers to the development process of an enterprise and its consistent enhancement of its overall business performance (Sun, 2004). The term 'enterprise growth' is used interchangeably with terms like 'firm growth,' and in the context of this study 'SME growth.'

The components of SME growth are firm characteristics, firm strategy, and the entrepreneur (Storey, 1994). This theory formed a crucial part of this study since a part of the IVs of this study (SME firm characteristics and SME firm strategy) are two of the three components of SME growth. Furthermore, it is important to note that the two components of SME growth in this study focus on the internal environment of a firm. Existing literature on enterprise growth is quite broad as the components of this theory differ from each scholar, meaning that there currently isn't a standard set of components of enterprise growth.

Crisis management refers to the strategies that a business firm uses to manage unforeseen events or circumstances that pose a significant risk to the firm and its shareholders (Fink, 2013). This theory also formed a crucial part of this study since load shedding has caused an energy crisis in South Africa, costing the South African economy billions of rands year-on-year. In addition to this, South Africa has recently ended its two-year National State of Disaster (i.e., the COVID-19 lockdown) as a result of low positive COVID-19 cases recorded

in the country. This theory was closely linked to the two components of SME growth in this study.

Organisational resilience refers to the firm's ability to persevere in the midst of challenges in both the internal and external environment (Acquaah, Amoako-Gyampah, & Jayaram, 2011). This theory formed a crucial part of this study since the DV of this study was SME resilience. The dimensions of organisational resilience are broad, and range from a firm's ability to plan and adapt (Rai et al., 2021; Whitman et al., 2017), to management activities, innovation, planning, customer relations, recruitment and training with a firm (Demmer, Vickery, & Calantone, 2011).

During the COVID-19 lockdown period in South Africa, approximately 40% of SMEs in the country had to permanently close their businesses due to the severe economic impact of the global pandemic (UNDP South Africa, 2021). In summary, for the purpose of this study, the term 'crises' alluded to both the COVID-19 lockdown as well as the current energy crisis in South Africa.

1.4 Motivation for the study and problem statement

The research problem for this study was that load shedding has become more prevalent since the end of the COVID-19 lockdown, and as a result poses a significant threat to both the growth and resilience of SMEs in Gauteng (the economic hub of South Africa).

In 2022, South Africa experienced its worst year of load shedding to-date. The country's worst month of load shedding was in September last year with 25 out of the 30 days without consistent electricity supply (Erasmus & Van der Merwe, 2022). This current crisis came just soon after the country had exited its two-year COVID-19 lockdown signifying the end of mandatory mask wearing in public, midnight curfews, and restrictions on large public gatherings just to name a few.

The motivation behind conducting this study was to inquire into the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province, post what was the toughest period in South Africa due to the multiple lockdown restrictions imposed on citizens in the country by the South African government as a measure to curb the spread of COVID-19 at the time. In the context of this study, the term 'crises' can be defined as the culmination of both the current energy crisis in South Africa, as well as the

severe economic impact caused by the multiple COVID-19 lockdown restrictions on SMEs in the province.

One of the main reasons SMEs in South Africa fail to survive is largely due to a lack of financial support or capital (Global Entrepreneurship Monitor, 2022). In 2021, SMEs in South Africa recorded a low Established Business Owners (EBO) rate which stood at 5.2% (South Africa is ranked 29 out of 47 countries) (GEM, 2022). This poses a significant threat to the longevity of SMEs in the country because it indicates that the number of SMEs that operate for more than 3.5 years is low. What is even more concerning is the constant load shedding that occurs, which further negatively impacts on the well-being and livelihood of many entrepreneurs (many of whom seek to provide for themselves and their families). Seinker (2019); Ateba et al. (2019) found that the occurrence of load shedding has a negative impact on the revenue of small firms.

The current energy crisis in South Africa has been detrimental thus far to the profitability of many SMEs in the country since most of them rely heavily on electricity, therefore leaving them with no option but to close their businesses before the end of the business day. Phiri and Kabubi (2018); Kunene (2009); Gusta (2020) posited that the occurrence of load shedding leads to the halting of business operations. Furthermore, Coetzee and Mart (2016); Mkhwebane and Ntuli (2019); Jonckie (2020) found that most small firms aren't able to purchase alternative sources of electricity due to financial constraints. SMEs that have the luxury of having a generator at their disposal also have to bear the brunt of spending large sums of money on purchasing petrol or diesel for their generators as a means to continue their business operations (in an already volatile energy market as a result of the on-going conflict between Russia and Ukraine).

The energy crisis in South Africa has left millions of South Africans feeling powerless – both in a literal and figurative sense. This study sought to shed some light on the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province.

1.5 Research purpose, research question and aims of the study

1.5.1 Main research objective

The main research objective for this study was to examine the impact of SME firm characteristics in response to crises (IV) and SME firm strategy in response to crises (IV) on SME resilience (DV) in the Gauteng Province. The independent variables (IVs) of this study

were SME firm characteristics in response to crises and SME firm strategy in response to crises, and the dependent variable (DV) of this study was SME resilience.

1.5.2 Specific research objectives

The specific research objectives (ROs) for this study were as follows:

- **RO 1**: To examine the impact of the SME firm characteristics in response to crises on SME resilience in the Gauteng Province.
- **RO 2**: To examine the impact of the SME firm strategy in response to crises on SME resilience in the Gauteng Province.

1.5.3 Research questions

The main research question for this study was *to what extent does the impact of SME firm characteristics and SME firm strategy in response to crises have on SME resilience in the Gauteng Province*?

The research question (RQ) for this study was as follows:

- **RQ 1**: *To what extent does crises such as the COVID-19 pandemic and load shedding, impact on SME resilience in the Gauteng Province*?

The purpose of this study was to gain empirical insight into the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province. A lot has happened in the Gauteng Province and South Africa at large in the past three years as a result of the COVID-19 pandemic therefore, it was important to generate new knowledge in this respect. In this study, a quantitative research approach was adopted to collect the relevant data to answer the above-mentioned research question(s).

The South African economy took a hard knock during the COVID-19 lockdown, with many SMEs losing a substantial amount of revenue as a result of the lockdown's restrictions on movement and trade therefore, it became crucial to examine the resilience of SMEs in the Gauteng Province during the COVID-19 lockdown as well as the current energy crisis (which has plunged the South African economy into a serious crisis).

1.6 Delimitations of the study

- This study was underpinned by three main theories; enterprise growth, crisis management, and organisational resilience.

- Enterprise growth or SME growth comprises of three components; the firm (i.e., SME firm characteristics), strategy (i.e., SME firm strategy), and the entrepreneur (Storey, 1994). However, this study focused on only two of the three components of SME growth (SME firm characteristics and SME firm strategy).
- Crisis management comprises of three steps; pre-crisis prevention, crisis management and post-crisis outcomes (Bundy, Pfarrer, Short, & Coombs 2017).
- Organisational resilience comprises of dimensions including, but not limited to; a firm's ability to plan and its adaptability (Rai et al., 2021; Whitman et al., 2017), management activities, innovation, planning, customer relations, recruitment and training (Demmer, Vickery, & Calantone, 2011).
- This study examined SMEs from across all industries and sectors operating within the Gauteng Province.
- This study targeted SME Owner-Managers operating within the Gauteng Province.
- This study focused solely on the Gauteng Province.

1.7 Conceptual definitions of terms

The definitions of the main variables in this study that need to be understood are the following:

Enterprise Growth – Enterprise growth refers to the development process of an enterprise and its consistent enhancement of its overall business performance (Sun, 2004). The components of SME growth are firm characteristics, firm strategy, and the entrepreneur (Storey, 1994).

Firm Characteristics – Firm characteristics refers to the essential characteristics of a firm which includes; the legal structure of a firm, firm size, firm age, and firm location (Storey, 1994; Cooper, Gimeno-Gascon, & Woo, 1994; Indarti & Langenberg, 2004).

Firm Strategy – Firm strategy refers to a firm's deployment of its key resources, key activities, and skills within the firm to deliver superior value for buyers (Porter, 1991).

Crisis – A crisis refers to an unforeseen event or circumstance which could lead to a severe, negative outcome (Shrivastava, 1993; Pearson & Claire, 1993).

Crisis Management – Crisis management refers to the strategies which an organisation employs to deal with unforeseen circumstances or events that pose a significant threat to the organisation (Fink, 2013).

Organisational Resilience – Organisational resilience refers to the firm's ability to persevere in the midst of challenges in both the internal and external environment (Acquaah, Amoako-Gyampah, & Jayaram, 2011).

Load Shedding – Load shedding refers to the reduction of electricity supply to the general public through the implementation of scheduled power outages to ensure stability in the country's electricity grid (City of Johannesburg, n.d.).

The COVID-19 Lockdown – The Coronavirus (COVID-19) lockdown refers to the restrictions on movement and trade implemented by various national governments to curb the spread of the Coronavirus amongst its citizens (Kraus, Clauss, Breier, Gast, Zardini, & Tiberius, 2020).

1.8 Contributions of the study

The intended contributions of this study were to provide new empirical insight into the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience. Furthermore, this study sought to examine the impact of both the COVID-19 lockdown as well as the current energy crisis in South Africa on SMEs in the Gauteng Province.

Existing literature in the entrepreneurship domain does not account extensively for the impact of load shedding on both the growth and resilience of SMEs in the Gauteng Province post the COVID-19 lockdown, therefore leaving a crucial gap in existing entrepreneurship literature as far as this research topic is concerned. Battisti and Deakins (2017) posited that because most studies that have been conducted on organisational resilience have focused on large firms, this has led to inadequate knowledge in regards to small businesses.

Ipinnaiye, Dineen, and Lenihan (2017) posited that existing literature pertaining to firm characteristics has focused mostly on mature economies as compared to emerging economies. This study sought to bridge these existing gaps in entrepreneurship literature by gathering new empirical data aimed at providing further insight into the impact of crises on SME resilience. Furthermore, this study will provide valuable insight for SME Owner-Managers (particularly in emerging economies), policy-makers in the spheres of government, scholars in the fields of entrepreneurship and management (specifically, strategic management), therefore contributing further toward the field of entrepreneurship.

In summary, this chapter covered the context of this study, the theories that underpinned this study, the motivation and problem statement for this study, the research purpose, research questions and aims of this study, the delimitations of this study, the conceptual definitions of key terms in this study, as well as the contributions of this study toward entrepreneurship literature.

The rest of this study comprises of the following chapters; Chapter 2 (full literature review), Chapter 3 (methodology), Chapter 4 (presentation of results), Chapter 5 (discussion of the results), and Chapter 6 (conclusion of the study).

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter, a brief synthesis and critical evaluation of existing literature regarding enterprise growth, crisis management, and organisational resilience was conducted. The purpose of conducting this literature review was to explore whether there was a pertinent gap in existing literature pertaining to the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience. Furthermore, in the context of this literature review, a brief examination of existing literature relating to the COVID-19 lockdown as well as the current energy crisis in South Africa was examined. This literature review comprised of the following sections;

- Theoretical foundation of enterprise growth,
- Theoretical foundation of crisis management,
- Theoretical foundation of organisational resilience,
- The impact of SME firm characteristics in response to crises on SME resilience,
- The impact of SME firm strategy in response to crises on SME resilience.

2.2 Theoretical foundation of enterprise growth

Enterprise growth refers to the development process of an enterprise and its consistent enhancement of its overall business performance (Sun, 2004). According to Storey (1994) the components of growth for SMEs are firm characteristics, firm strategy, and the entrepreneur. Existing literature regarding enterprise growth theory is broad as various scholars in the fields of entrepreneurship and management have defined enterprise growth in various ways. In addition to this, scholars have expressed a variety of determinants and indicators regarding enterprise growth therefore, providing a wide spectrum of academic perspectives pertaining to this theory.

On the one hand, enterprise growth is defined using financial indicators. Delmar, Davidsson, and Gartner (2003) state that the determinants of enterprise growth are both sales and employment. Interestingly, Penrose (1959) suggests that firm growth is dependent on the economy, a firm's resources and its management. Nelson and Winter (1982) claim that enterprise growth occurs as a result of a firm's resources, capabilities and routines.

On the other hand, enterprise growth is defined using non-financial indicators. Mao (2009) defines enterprise growth as the culmination of both the quantity and quality of an enterprise.

Similarly, Penrose (2006) states that enterprise growth is the outcome of the internal development, quality and expansion within a firm. McGee and Dowling (1994) found that the level of research and development that a firm undertakes often leads to enterprise growth. Similarly, Fischer, Reuber, Hababou, Johnson, and Lee (1997) claim that a firm's use of innovation will most likely result in growth within the firm.

Furthermore, enterprise growth is mostly defined using the characteristics of a firm. Firm characteristics (which comprises of a firm's legal structure, size, age, location, and industry) are crucial to the survival and growth of an SME (Storey, 1994; Cooper et al., 1994; Indarti & Langenberg, 2004). Smallbone, Leigh, and North (1995) confirm that indeed the age of a firm, the size of a firm, a firm's sector, and its source of capital will ultimately determine the success of a firm. Similarly, Honhyan (2009); Dun & Girma (2012) claim that firms with more employees will most likely generate more revenue. The size and age of a firm coupled with its adopted strategy often leads to positive growth within a firm (Morone & Testa, 2008; Barringer, Jones, & Neubaum, 2005; Freel & Robson, 2004).

2.2.1 Firm Characteristics

Firm characteristics refers to the essential characteristics of a firm which includes; the legal structure of a firm, firm size, firm age, and firm location (Storey, 1994; Cooper et. al, 1994; Indarti & Langenberg, 2004). Levratto, Tessier, and Zouikri (2010) state that human capital, the resources of a firm as well as the market characteristics of a firm are key factors in the growth of SMEs. McMahon (2001) concludes that firm size has a significant effect on an SME's success. According to Ipinnaiye et al. (2017) existing literature regarding firm characteristics has focused mostly on mature economies as compared to emerging economies.

2.2.2 Firm Strategy

Firm strategy refers to a firm's deployment of its key resources, key activities, and skills within the firm to deliver superior value for buyers (Porter, 1991). In addition to this, firm strategy refers to a firm's management implementation of strategies to ensure sustainable growth within the firm (Storey, 1994). The success of a firm is determined by the industry that a firm operates within as well as its relative position (Porter, 1991).

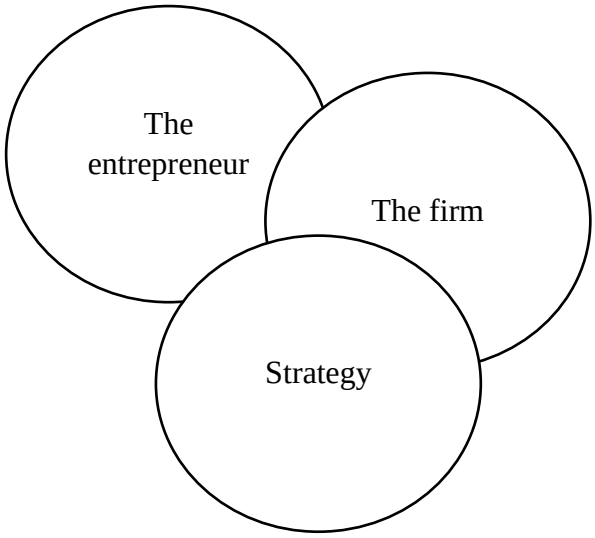
A framework for analysing a firm's industry as well as its competitors is referred to as the five forces of strategy (Porter, 1991). This framework can be used to analyse the key drivers in the macroeconomic environment (Porter, 1991). A firm's relative position refers to a

firm's competitive strategy (Porter, 1991). A firm's competitive strategy comprises of three approaches; Cost leadership, differentiation, and focus (Porter, 1991).

2.2.3 The Entrepreneur

The entrepreneur refers to the individual who is the tasked with ensuring sustainable growth within the firm (Storey, 1994). In addition to that, the entrepreneur is responsible for undertaking the entrepreneurial endeavours relating to the firm. The characteristics of an entrepreneur have been proven to play a significant role in the success of a firm. Kristiansen, Furuholt, and Wahid (2003) claim that the characteristics of an entrepreneur are key to the success of an SME. The attributes and traits of an entrepreneur which includes age, gender, educational background and work experience have a profound impact on entrepreneurial intention and orientation (Islam, Khan, Obaidullah, & Alam 2011). Similarly, Yusuf (1995); Wijewardena and Cooray (1996) found that the academic background and professional experience of an entrepreneur often determines the success of the firm.

Figure 1: The components of SME growth



(Storey, 1994)

As illustrated in Figure 1, the three components of SME growth; The firm (i.e., SME firm characteristics), strategy (i.e., SME firm strategy), and the entrepreneur are overlapping each other as a result of the interdependence between each component (Storey, 1994). However, this study focused on only two of the three components of SME growth (SME firm characteristics and SME firm strategy).

Table 1: Summary of literature reviewed on enterprise growth

Authors	Contribution
Amini (2004)	Enterprise growth in relation to wealth creation and employment
Ayyagari, Demirguc-Kunt, & Maksimovic (2014)	The role of SMEs in creating jobs
Beck & Dermiguc-Kunt (2006)	The role of finance in enterprise growth
Davidsson, Achtenhagen, & Naldi (2010)	Firm growth and employment
Delmar, Davidsson, & Gartner (2003)	Determinants of enterprise growth
Fischer, Reuber, Hababou, Johnson, & Lee (1997)	The role of firm innovation in enterprise growth
Honhyan (2009); Dun & Girma (2012)	Firm size
Ipinnaiye, Dineen, & Lenihan (2017)	Determinants of enterprise growth in emerging economies
Islam, Khan, Obaidullah, & Alam (2011)	Characteristics of an entrepreneur
Kristiansen, Furuholt, & Wahid (2003)	Characteristics of an entrepreneur
Levratto, Tessier, & Zouikri (2010)	Key factors in SME growth
Mambula (2002)	Infrastructure and SME growth
Mao (2009)	Conceptualisation of enterprise growth
McGee & Dowling (1994)	R&D and enterprise growth
McMahon (2001)	Firm characteristics
Mintzberg et al. (2003); Cagliano et al. (1998); & Barnes et al. (1999)	Strategic planning within SMEs
Morone & Testa (2008); Barringer, Jones, & Neubaum (2005); Freel & Robson (2004)	The relationship between firm age, size, and strategy
Nelson & Winter (1982)	Fostering enterprise growth
Penrose (1959)	Conceptualisation of enterprise growth
Penrose (2006)	Conceptualisation of enterprise growth
Porter (1991)	Conceptualisation of firm strategy
Porter (1998)	Firm competitive strategy
Smallbone, Leigh, & North (1995)	Firm characteristics
Sridhar & Wan (2010)	The location of a firm

Storey (1994)	Determinants of SME growth
Storey (1994); Cooper, Gimeno-Gascon, & Woo (1994); Indarti & Langenberg (2004)	Firm characteristics
Sun (2004)	Conceptualisation of enterprise growth
Yusuf (1995); Wijewardena & Cooray (1996)	Characteristics of an entrepreneur

2.3 Theoretical foundation of crisis management

Crisis management refers to the strategies which an organisation employs to deal with unforeseen circumstances or events that pose a significant threat to the organisation (Fink, 2013). The term 'crisis management' stems from the term 'crisis', which refers to an unforeseen event or circumstance which could lead to a severe, negative outcome (Shrivastava, 1993; Pearson & Claire, 1993). In the context of firms, Hermann (1963) defines a crisis as a sudden and unexpected event that poses a risk to a firm therefore, requiring urgent intervention from a firm's management. Witte (1981) defines a crisis as an overall threat to a firm.

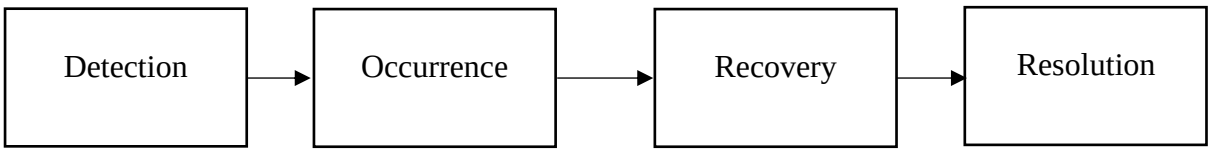
Coombs (2007) states that a crisis poses a significant threat to the financial and reputational wellbeing of a firm. Hermann (1963); Penrose (2000); Lerbinger (2012) indicate that the impact of a crisis can result in the erosion of trust as well as a diminishment of a company's value, which may ultimately result in business failure. Pearson and Claire (1998); Drummond (2004) suggest that during a crisis, firms should have effective responses in place to ensure the survival and growth of a firm.

Existing literature regarding crisis management provides a wide-range of indicators ranging from quantitative to qualitative indicators however, Cvilikas, Kurschus, and Šarapovas (2015) suggest that qualitative indicators should not be ignored when conceptualising crisis management since they might have a negative impact on a firm. In addition to this, literature surrounding crisis management refers mainly to crisis models and processes of managing a crisis.

Bundy et al. (2017) claim that crisis management can be defined in 3 steps; pre-crisis prevention, crisis management and post-crisis outcomes. Whereas, Mitroff (1988); Pearson and Mitroff (1993); Pearson and Claire (1998); Paraskevas (2006); Hutchins and Wang (2008) conceptualise crisis management as a systematic process. According to Pearson and

Mitroff (1993) and Fink (1986) a crisis process model consists of detection, occurrence, recovery, and resolution.

Figure 2: The crisis process model



(Pearson & Mitroff, 1993; Fink, 1986)

As illustrated in Figure 2, the crisis process model comprises of the following steps (Pearson & Mitroff, 1993; Fink, 1986):

2.3.1 Detection

The first stage of crisis is detection. This stage is one of the most crucial (if not the most crucial) stage in crisis management. The early detection of a crisis provides a firm sufficient time to prepare for a crisis by consolidating its resources to manage the potential crisis.

2.3.2 Occurrence

During this stage, the crisis has already begun and the firm is tasked with managing the crisis to ensure its survival post the crisis. In addition to that, the firm has an upper hand when it comes to preventing severe damage caused by the crisis provided that the firm was able to detect the potential crisis at an early stage.

2.3.3 Recovery

At this point, the firm will begin the process of recovering from any damage(s) caused to the firm during the crisis. Depending on the firm's management of the crisis in its occurrence stage, the firm should be able to restore what was lost during the crisis and return to business-as-usual.

2.3.4 Resolution

Lastly, the firm will review how they responded to the crisis that occurred and adequately prepare for any potential crisis in the future.

For the longest of time, literature surrounding crisis management focused mostly on large firms however, since SMEs play a significant role in the global economy there has been an uptick in research regarding crisis management for small firms. Runyan (2006); Herbane

(2013); Hong and Jeong (2006) found that small businesses are severely impacted by crisis events due to their limited resources, networks and market positions.

Table 2: Summary of literature reviewed on crisis management

Authors	Contribution
Ansell, Boin, & Keller (2010)	Firm strategy during a crisis
Bundy, Pfarrer, Short, & Coombs (2017)	Crisis management steps
Coombs (2007)	Impact of crisis
Cvilikas, Kurschus, & Šarapovas (2015)	Crisis management for SMEs
del Rio-Chanona, Mealy, Pichler, Lafond, & Farmer (2020)	Impact of COVID-19 on firms
Dent & Cudworth (2018)	Leadership and teamwork during a crisis
Fink (2013)	Conceptualisation of crisis management theory
Hermann (1963)	Conceptualisation of crisis theory
Hermann (1963); Penrose (2000); Lerbinger (2012)	Impact of crisis on firms
Kraus, Clauss, Breier, Gast, Zardini, & Tiberius (2020)	Impact of crisis
Runyan (2006); Herbane (2013); Hong & Jeong (2006)	Crisis management for small firms
Pearson & Claire (1998); Drummond (2004)	Crisis management for SMEs
Pearson & Mitroff (1993); Fink (1986)	Crisis process model
Shrivastava (1993); Pearson & Claire (1993)	Conceptualisation of crisis theory
Sullivan, Taylor, & Branicki (2011)	The impact of extreme events
Wellalage, Stuart (2012); Skeel (2014); Peat (2007)	Crisis identification and management for SMEs
Witte (1981)	Impact of crisis

2.4 Theoretical foundation of organisational resilience

Similar to crisis management, most studies on organisational resilience have focused on large firms therefore, resulting in limited knowledge on organisational resilience within SMEs. Battisti and Deakins (2017) indicate that because most studies that have been conducted on organisational resilience have focused on large firms, this has led to inadequate knowledge in regards to small businesses. With that said, Zehir and Narcıkara (2016) claim that existing literature regarding smaller firms' resilience has focused primarily on the correlation between leadership and the resilience of the firm. According to Lampel, Bhalla, and Jha (2014) organisational resilience is a by-product of a firm's ownership and governance structure.

Like enterprise growth, organisational resilience can be defined in various ways. Burnard, Bhamra, and Tsinopoulos (2018) state that organisational resilience can be attributed to a firm's capability in responding adequately to disruptive events. Cameron and Dutton (2003) claim that organisational resilience is centred around a firm's response to disruption. Mithani (2020) suggests that organisational resilience is a system's way of responding to adapt to disruptions caused in the environment. According to McLarnon and Rothstein (2013) organisational resilience can be defined as both an outcome and process. However, Bonanno (2004); Monllor, Pavez, and Pareti (2020) suggest that organisational resilience is a developmental process that has a baring on both the physical and emotional wellbeing of a firm.

Acquaah et al. (2011) conceptualise organisational resilience as the firm's ability to persevere in the midst of challenges in both the internal and external environment. Seville, Van Opstal, and Vargo (2015) consider organisational resilience as a way of fostering agility within a firm to adapt unforeseen events.

2.4.1 The Dimensions of Organisational Resilience

Existing literature surrounding organisational resilience offers a variety of dimensions. The dimensions of organisational resilience range from a firm's ability to plan and its adaptability (Rai et al., 2021; Whitman et al., 2017), management activities, innovation, planning, customer relations, recruitment and training (Demmer et al., 2011). In addition to that, the components of organisational resilience can be defined in three-fold; Outcome, Process (McLarnon & Rothstein, 2013), and Resource (Fisher, Ragsdale, & Fisher, 2019).

Table 3: Summary of literature reviewed on organisational resilience

Authors	Contribution
Acquaah, Amoako-Gyampah, & Jayaram (2011)	Conceptualisation of organisational resilience
Battisti & Deakins (2017)	Organisational resilience for small firms
Bonanno (2004); Monllor, Pavez, & Pareti (2020)	Conceptualisation of organisational resilience
Burnard, Bhamra, & Tsinopoulos (2018)	Attributes of organisational resilience
Cameron & Dutton (2003)	Conceptualisation of organisational resilience
Demmer, Vickery, & Calantone (2011)	The dimensions of organisational resilience
Fisher, Ragsdale, & Fisher (2019)	Conceptualisation of organisational resilience
Lampel, Bhalla, & Jha (2014)	Corporate governance and organisational resilience
McLarnon & Rothstein (2013)	Conceptualisation of organisational resilience
Mithani (2020)	Conceptualisation of organisational resilience
Seville, Van Opstal, & Vargo (2015)	Organisational resilience and agility
Zehir & Narcıkara (2016)	Correlation between leadership and resilience

2.5 The impact of SME firm characteristics in response to crises on SME resilience

2.5.1 What is known with regard to the impact of SME firm characteristics in response to crises on SME resilience?

In the case of small firms, this move dealt a significant blow to their revenue. The COVID-19 lockdown expedited the demise of many SMEs around the world. According to Alves, Lok, Luo, and Hao (2020) small firms are more vulnerable to crises as a result of limited

resources, weaker market presence amongst other reasons. At the end of the month, most SMEs are expected to pay monthly rent to their landlords otherwise face eviction – which for most SMEs could lead to a permanent shut down of their businesses. The location of an SME is one of the key components to the success of an SME. Sridhar and Wan (2010) claim that the location of a firm provides a sustainability advantage to the firm. In addition to that, it is known that SMEs located in rural areas face more difficulties when it comes to growth. According to Storey (1994); Keeble (1997) the challenges that SMEs located in rural areas encounter are low awareness, business advice and access to external funding.

SMEs around the world have had to down-size (i.e., retrench their employees) due to a lack of consistent revenue as a result of the COVID-19 national lockdowns in many countries around the world. De Cuyper, Küçükkeles, and Reuben (2020) indicate that more than 70% of employees working in start-ups around the world have lost their income and jobs as a result of the COVID-19 pandemic. Retrenchment acts as a short-term solution to the problem and often has a negative effect on an SME's growth and performance. According to Wenzel, Stanske, and Lieberman (2020) exercising perseverance or innovation within a firm is more sustainable as opposed to opting to retrench employees within a firm. In addition to this, laying off employees during times of crisis often leads to an increase in economic inequality. Ayyagari, Demirguc-Kunt, and Maksimovic (2014) suggest that SMEs contribute significantly toward job creation. Furthermore, Davidsson, Achtenhagen, and Naldi (2010) claim that there is a correlation between business growth and employment creation.

Without employees there is no firm therefore, the reduction in firm size during the pandemic might have offered some financial relief for firms in the short-term however, the long-term effects of this decision have become detrimental to both small firms as well as the economy (both local and national). According to Amini (2004) SME growth is crucial to the creation of wealth and employment in countries.

Unlike traditional large firms, SMEs do not have the sufficient financial resources to deflect the kind of turbulence that occurs as a result of a crisis. Uyar and Guzelyurt (2015) claim that SMEs experience more volatility and are less leveraged as opposed to large firms. In addition to this, one of the biggest challenges that SMEs around the world face (specifically in developing countries) is access to finance. Beck and Dermiguc-Kunt (2006) claim that a lack of access to finance was an impediment to the growth of SMEs. Furthermore, Kostopoulos,

Spanos, and Prastacos (2002) found that access to finance can lead to an increase in firm innovation, whereas limited access to finance may result in low firm innovation and growth.

During the COVID-19 pandemic, COVID-19 relief funds/packages were made available to firms by various governments globally to provide short-term financial assistance (Kraus, Clauss, Breier, Gast, Zardini, & Tiberius, 2020). The duration of a crisis or crises may differ and could lead to a depletion of financial resources within a firm and, could potentially impact negatively on the resilience of SMEs due to limited financial resources which could impact on the firm's ability to attract and retain skilled human capital (Kraus et al., 2020).

Load shedding in South Africa has caused an immediate energy crisis in the country. The largest power utility in the country is grappling with serious challenges of stabilising the electricity grid across the country, and providing consistent electricity supply to South Africans. This energy crisis has affected the lives and livelihood of many South Africans. As the country was beginning to rebuild itself after the devastation caused by the coronavirus, load shedding could replace the COVID-19 pandemic as the biggest crisis in South Africa. In addition to this, SMEs have once again not been spared.

Since the implementation of load shedding, many firms have had to make arrangements to continue operating during the scheduled power outages. Unlike most large firms that might have the luxury of having a backup generator at their disposal, many small firms rely solely on the electricity supplied by the state-owned utility. According to Phiri and Kabubi (2017) most SMEs in South Africa are not able to operate their businesses during load shedding. Load shedding in South Africa has not made it easy for SMEs to operate as SME Owner-Managers therefore, it can be assumed that SME Owner-Managers are once again forced to consider retrenching their employees to minimise their costs. However, load shedding is not only impacting the lives and livelihoods of people in South Africa. According to ISSR (2015) the electricity crisis in Ghana was costing SMEs close to $700 million of revenue on a yearly basis. Similar to Ghana, Kaseke (2012) posited that the electricity crisis in Zimbabwe resulted in an estimated 32% loss in the country's GDP per kilowatt-hour.

According to Scott, Darko, Lemma, and Juan-Pablo (2014) access to electricity was becoming the biggest challenge to SMEs in most emerging economies. Fjose and Grünfeld (2010) posited that access to financing and unstable electricity supply were two of the most severe obstacles hindering SME growth in emerging economies. Similarly, Hatega (2007) and Kauffman (2006) posited that the obstacles affecting SME growth in Sub-Saharan

African countries can be attributed to weak financial markets as well as unreliable electricity supply. Sutton (1997) states that the level of opportunity within a firm is a by-product of the firm's size. Furthermore, Barker and Duhaime (1997) state that the performance of SMEs declines as a result of retrenchment.

One of the main reasons (if not the main reason) why SMEs in emerging economies fail to survive for a long period of time is due to a lack of sufficient financial support (Ndiaye, Razak, Nagayev, & Ng, 2018). In 2021, SMEs in South Africa recorded a low EBO rate which ranked 29 out of 47 countries (GEM, 2022). Kristiansen et al. (2003) found that there is a correlation between the age of a business and the success of a business.

Lastly, a lack of sufficient support from both government and the private sector will most likely affect the performance of SMEs (Ndiaye et al., 2018). Receiving the necessary financial support from financial institutions can be difficult for most SMEs due to the strict requirements of lending institutions when assessing an SME owner's credit profile or appetite (Ndiaye et al., 2018).

2.5.2 What is not known with regard to the impact of SME firm characteristics in response to crises on SME resilience?

What was unclear regarding the impact of SME firm characteristics in response to crises on SME resilience was whether SMEs pivoted industries or sectors as a result of crises. On the one hand, Chesbrough (2020); Morgan et al. (2020); Pedersen et al. (2020) claim that business model innovation and pivoting industries could be a solution during the COVID-19 crisis. On the other hand, Islam et al. (2011) state that SMEs do not have the luxury of pivoting industries. In addition to this, it was unknown whether the emergence of crises ignited innovation within SMEs in the Gauteng Province.

It was also unclear to what extent did the COVID-19 lockdown and the current energy crisis in South Africa impact or affect the performance of SMEs in the Gauteng Province. Viljoen and Struweg (2016) indicate that 83% of firms in the City of Johannesburg have back-up power at their disposal. In addition to this, it can be assumed that due to the escalation of load shedding in South Africa coupled with the current state of the South African economy as a result of low economic growth caused by several factors including the COVID-19 pandemic, less of the businesses operating in the City of Johannesburg have the luxury of maintaining their generators due to diminishing returns. This could pose a severe threat to the survival of many SMEs in the country.

2.5.3 What is the contribution with regard to the impact of SME firm characteristics in response to crises on SME resilience?

This study intended on contributing to existing literature regarding SME firm characteristics in response to crises and SME resilience through the collection of new empirical data. Furthermore, this study intended on contributing to existing literature regarding crisis management by examining the impact of crises like the COVID-19 pandemic as well as the current energy crisis in South Africa on the resilience of SMEs.

2.6 The impact of SME firm strategy in response to crises on SME resilience

2.6.1 What is known with regard to the impact of SME firm strategy in response to crises on SME resilience?

The coronavirus has become one of the biggest health crises of the 21st century (Kraus et al., 2020). The world was not prepared for the carnage that this deadly virus would cause in society. The COVID-19 pandemic disrupted the way humans lived and ushered in what is now termed 'the new normal.' Business firms were not immune to this drastic change. According to Chen and Hambrick (1995) changes that may occur in the macro-economic environment may result in uncertainty for SMEs. Ipinnaye et al. (2017) suggest that the macroeconomic environment plays a critical role in firm growth. Even though many businesses had to halt their operations as a result of the COVID-19 lockdown, the proverbial show had to continue as firms opted to engage their customers virtually, with employees working from home. This required firms to adopt a new strategy in regards to this drastic shift.

Preble (1997); Gomes-Casseres (1994); Sayegh et al. (2004) suggest that the management team of a firm is central to the firm achieving its strategic vision. Dent and Cudworth (2018) found leadership and teamwork to be effective responses when confronted with a crisis. Similarly, Tannenbaum and Schmidt (1957); Edmond et al. (2014); Xu (2013); Guo (2018); Cheng (2018) suggest that both leadership and human resources within a firm are critical when confronted with a crisis.

Ansell, Boin, and Keller (2010) indicate that it is crucial for firms to rapidly configure their strategies in order to review their next steps. Carney (2005) found that family businesses are

able to make decisions and respond to changes rapidly during turbulent times, without any risk of bureaucracy. Mintzberg et al. (2003); Cagliano et al. (1998); and Barnes et al. (1999) state that there is a lack of strategic planning within most SMEs. It is crucial for firms to be prepared for unforeseen circumstances or events that may threaten their day-to-day operations. According to Sullivan, Taylor, and Branicki (2011) the impact of extreme events has a negative bearing on SMEs due to their limited resources. Irvine and Anderson (2006); Munoz et al. (2019) claim that SMEs that have crisis plans in place often survive and recover from crises. Furthermore, Latham and Braun (2011) found that a firm's post-recession performance is determined by the firm's management of a crisis in its occurrence. However, Islam et al. (2011) claim that a firm's responsiveness is largely determined by its resources, strategies, industry, and location.

According to Assrfa and Rao (2020); Fabeil and Pazim (2020) small firms have less resilience and flexibility when it comes to managing costs during the pandemic as compared to larger firms. Similarly, Arthur (2007); Assrfa and Rao (2020) posited small firms have less cash reserves and risk management capabilities as compared to large firms. The COVID-19 lockdown restrictions had a negative impact on the productivity of SMEs around the globe (Kraus et al., 2020). Interestingly, the healthcare industry globally has seen an increase in demand and revenue due to the global pandemic (Kraus et al., 2020). These profits can be attributed to the procurement of COVID-19 vaccines and Personal Protection Equipment (PPE) in the form of surgical masks and hand sanitizers.

When it comes to the current energy crisis in South Africa, Viljoen and Struweg (2016) found that the availability of electricity supply in the country would result in the expansion of the country's economy, and the lack of electricity supply in the country would result in a decline in the country's economic performance. According to Mambula (2002) the absence of proper electricity supply, water supply, roads, and telecommunications stunt the growth of SMEs therefore, resulting in their untimely demise.

SMEs in the City of Johannesburg viewed load shedding as the biggest macroeconomic threat to the survival of their businesses (Viljoen & Struweg, 2016), due to their heavy reliance on electricity supply from entities like Eskom and City Power. Most SMEs in areas like Johannesburg have back-up power (i.e., generators) at their disposal, which further increases their monthly costs (Viljoen & Struweg, 2016).

SMEs like in the City of Johannesburg, that experienced electricity power outages lost their customers, and as a result, made less income on those days of those power outages therefore, diminishing their returns (Viljoen & Struweg, 2016). According to Roy, Lampert, and Stoyneva (2018) a crisis can ignite innovation within a firm.

2.6.2 What is not known with regard to the impact of SME firm strategy in response to crises on SME resilience?

What was unclear regarding SME firm strategy in response to crises on SME resilience was whether SMEs in Gauteng have the ability to rapidly respond to changes in the face of crises like family businesses. It was also unclear if the COVID-19 relief funds/packages assisted SMEs in the province in relieving some of the financial pressure caused by the COVID-19 lockdown. It was unclear how many SMEs in Gauteng view crises as opportunities to exploit or explore new business endeavours. It was unclear if SMEs in Gauteng are able to adapt to crises or not.

It was unclear how long SMEs can survive for as a result of back-to-back crises. Load shedding is said to end in 2027 (Nyathi, 2022). The question is, how long can SMEs in Gauteng endure the significant economic impact that comes with regular load shedding? Wenzel et al. (2020) state that a prolonging crisis may result in the depletion of a firm's financial resources. According to Semenya (2019) the efficiency, liquidity and profitability of an SME is negatively impacted by disruptions to its business operations. Having access to resources plays a crucial role in the resilience of an SME (Ates & Bititci, 2011; Pal, Torstensson, & Mattila, 2014).

It was unclear to what extent did the two-year COVID-19 national lockdown as well as the current energy crisis in South Africa impact on the resilience of SMEs in the country, specifically in the Gauteng Province. The COVID-19 lockdown period had dealt some serious blows to the SME sector in the country. Approximately 40% of SMEs in the country were forced to shut down their operations due to a lack of consistent income as a result of the lockdown restrictions imposed by the South African government (UNDP South Africa, 2021). It is not known how long SMEs in South Africa will continue to survive for (i.e., SME resilience), considering the re-emergence of constant load shedding in the country which has plunged South Africa into an energy crisis, coupled with the negative economic impact of the two-year COVID-19 national lockdown in South Africa as a result of the rising COVID-19 positive cases in the country.

2.6.3 What is the contribution with regard to the impact of SME firm strategy in response to crises on SME resilience?

This study intended on contributing to existing literature regarding SME firm strategy in response to crises and SME resilience through the collection of new empirical data. Furthermore, this study intended on contributing to existing literature regarding crisis management by examining the impact of crises like the COVID-19 pandemic as well as the current energy crisis in South Africa on the resilience of SMEs. This study examined this by collecting data from SMEs in the Gauteng Province. The reason behind focusing solely on the Gauteng Province was because Gauteng has the most SME Owner-Managers in South Africa.

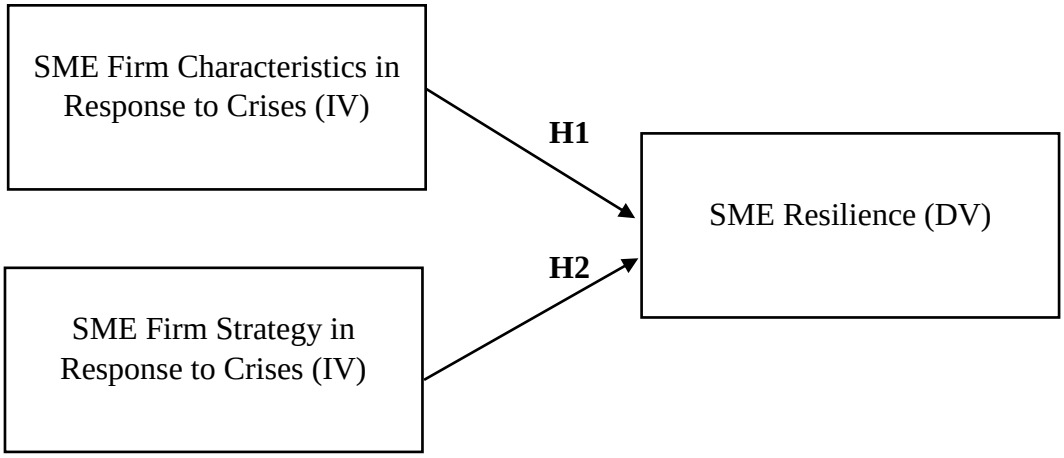
Based on the literature reviewed it was assumed that there was a need for new empirical data with regard to the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience. As a result, the proposed hypotheses for this study were as follows;

2.7 Hypotheses

H1: SME firm characteristics in response to crises have an impact on SME resilience.

H2: SME firm strategy in response to crises has an impact on SME resilience.

Figure 3: Conceptual Framework for this Study



2.8 Control variables of this study

The proposed control variables implemented for this study were as follows:

1. Age of the Business (Years). The relationship between the Age of the Business (Years) and SME Resilience will be examined. This is to determine whether there is a relationship between the duration of an SME and its resilience.
2. Size of the Business (Employees). The relationship between the Size of the Business (Employees) and SME Resilience. This is to determine whether there is a relationship between the number of employees in an SME and its resilience.
3. Location of the Business (City). The relationship between the Location of the Business (City) and SME Resilience. This is to determine whether there is a relationship between the location of an SME and its resilience.

2.9 Conclusion of this chapter

In conclusion, this chapter provided a review of literature regarding enterprise growth, crisis management, and organisational resilience. Furthermore, a review of the impact of the IVs on the DV of this study was provided.

CHAPTER 3: RESEARCH METHODOLOGY

In this chapter, the research theory and design employed in this study was detailed. In addition to that, this chapter touches on the research methodology and paradigm that was used for this study, the research design, the population and sample, the measuring instrument that was used, the procedure for data collection, the data analysis and interpretation, the validity and reliability of the study, the limitations, as well as the ethical considerations of this study.

3.1 Research methodology and paradigm

The research paradigm that was adopted for this study was Post positivism. Post positivism can be defined as a worldview that rejects the discernment of a single social reality and observation to reach a conclusion (Fox, 2008).

The post-positivist worldview is firmly rooted in the belief that one should seek to source objective information from other individuals rather than relying on one's preconceived views on subject matters (Phillips & Burbules, 2000) therefore, considering the fact that a quantitative research approach was employed for this study it became crucial that the data collected for this study was as objective as possible.

The research approach that was used for this study was a quantitative research approach. Quantitative research can be defined as a method of academic research that involves the representation of numerical data in a study (European Commission, 2005). A quantitative research approach was suitable for this study because it enabled a thorough examination into the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province. Furthermore, employing a quantitative research approach for this study will assist the reader to better understand the level of impact crises have on the growth and resilience of SMEs in the Gauteng Province through the use of tables and graphs. The advantages of adopting this type of research method were as follows:

- Quantitative research allows the researcher to demonstrate his or her own results visually using tables and graphs, which becomes easy for the reader to understand the displayed data (European Commission, 2005).
- Quantitative research is deemed as an objective research method.

- Quantitative research can be conducted within a short space of time, as opposed to qualitative research which would require further inquiry on the behalf of the researcher.

3.2 Research design

The methodological approach that was adopted for this study was the use of an online questionnaire (i.e., online survey). This particular approach was appropriate for this study 28 because it allowed for a seamless collection of data from SME Owner-Managers operating within the Gauteng Province in a short space of time (without having to physically visit those SMEs to collect the data). This made the data collection process convenient for both myself and the respondents in this study. The type of data that was collected for this study was primary data. Primary data refers to data that has not been processed (Schindler, 2019). The primary data was collected through the use of an open Qualtrics survey that would have taken approximately 10 – 15 minutes to complete.

The primary data that was collected through the online survey adopted a non-experimental design. A non-experimental design refers to the researcher's inability to alter or manipulate the variables in a study (Schindler, 2019) therefore, the use of the non-experimental design meant that the variables in this study were not manipulated by the researcher (Schindler, 2019).

The time dimension that was adopted for this study was a cross-sectional design. A cross-sectional design refers to a study that was measured at a single point in time (Schindler, 2019).

3.3 Population and sample

3.3.1 Population

The population for this study was Small and Medium-Sized Enterprises (SMEs). An SME can be defined as a separate business entity that is managed by one or more business owners, and active in any sector or subsector (Department of Small Business Development, 2019). SMEs play a crucial role in the growth of the South African economy as they contribute around 34% toward the country's total GDP (IFC, 2018).

3.3.2 Sample and sampling method

The sample of this study were SMEs operating within the Gauteng Province. The Gauteng Province comprises of 3 major cities; the City of Johannesburg, the City of Tshwane, and the

City of Ekurhuleni. The City of Johannesburg is the biggest contributor of revenue in South Africa, contributing 15% toward the country's national GDP, followed by the City of Tshwane contributing 9%, and the City of Ekurhuleni contributing 7% (Global African Network Media, 2022).

The primary sampling method that was envisaged for this study was probability sampling. However, due to the challenges faced with regard to collecting the primary data, non-probability sampling (snowball sampling) became the alternative method of sampling for this study. Non-probability sampling refers to a sampling technique that allows the researcher to use his or her own discretion when choosing participants (Schindler, 2019). The Qualtrics survey link was shared for circulation via SME hubs and incubators within the Gauteng Province, ResearchGate, LinkedIn, and WhatsApp.

The online survey platform that was used to collect the primary data for this study was Qualtrics. The requirement for eligibility to participate in this online survey was that the respondent had to be an SME Owner-Manager operating within the Gauteng Province. The respondents were provided with the necessary informed consent information regarding the ethical considerations and guidelines for this study (**See Appendix B**). The online survey was accessible through the survey link.

The achieved sample for this study were 71 SME Owner-Managers operating within the Gauteng Province. This achieved sample was less than the targeted sample of 385 SME Owner-Managers operating within the Gauteng Province. It can be assumed that the reason for not achieving the targeted sample was due to apathy amongst eligible respondents in participating in the survey due to time constraints. In addition to that, the scope of this study could have been widened further to SME Owner-Managers operating within South Africa as opposed to targeting only one province in the country.

The sampling frame that was used for this study was that the following;

1. The respondents had to be SME Owner-Managers,
2. The SME Owner-Managers had to have an SME operating within the Gauteng Province. SME Owner-Managers from across all industries and sectors were welcome to participate in the online survey.

Table 4: Profile of the respondents

Occupation	Targeted sample	Achieved sample
SME Owner-Managers	385	71
This study targeted SME Owner-Managers from across all industries and sectors within the Gauteng Province.		

3.4 Measuring instruments

The measuring instrument (i.e., research instrument) that was used for this study was an online questionnaire that was available for the respondents to complete via the Qualtrics platform. The online questionnaire was used to source the primary data from the SME Owner-Managers operating within the Gauteng Province. This online questionnaire consisted of five sections (**See Appendix B**); Section A (Demographical Information), Section B (Business Characteristics), Section C (SME Firm Characteristics in Response to Crises), Section D (SME Firm Strategy in Response to Crises), and Section E (SME Resilience).

Section A collected basic demographical information from the respondents like gender, age group, race, highest level of education, etc. (**See Appendix B**). This data was collected through the use of multiple-choice.

Section B collected data on the characteristics of the business which included questions like the size of the firm, age of the firm, the industry in which the firm operates within, and the location of the firm (**See Appendix B**). This data was collected through the use of multiple-choice.

Section C collected data on the SMEs firm characteristics in response to crises (**See Appendix B**). A 7-point Likert Scale ranging from 1 (Strongly disagree) to 7 (Strongly agree) was adopted for this section.

Section D collected data on the SMEs firm strategy in response to crises (**See Appendix B**). A 7-point Likert Scale ranging from 1 (Strongly disagree) to 7 (Strongly agree) was adopted for this section.

Lastly, Section E collected data on SME resilience during times of crisis. (**See Appendix B**). A 7-point Likert Scale ranging from 1 (Strongly disagree) to 7 (Strongly agree) was adopted for this section.

All of these questions that were posed in this online questionnaire were posed in a manner that did not violate the personal rights of any respondent. In addition to this, the cover page of the online survey introduced the main objective of the study to respondents as well as the respondent informed consent information (**See Appendix B**).

Table 5: Measures used in this study

Construct	Literature Sources	Dimensions	Comment on Instrument
SME Resilience (DV) This scale was measured using a 7-Point Likert Scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).	Rai et al. (2021); Whitman et al. (2017)	1. Planning 2. Adaptation	The validity of the constructs was tested using Exploratory Factor Analysis (EFA). The reliability of the scale was tested using Cronbach's Alpha.
SME Firm Characteristics in Response to Crises (IV) This scale was measured using a 7-Point Likert Scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).	Rai et al. (2021)	1. Industry 2. Firm age 3. Firm size 4. Firm location	The validity of the constructs was tested using Exploratory Factor Analysis (EFA). The reliability of the scale was tested using Cronbach's Alpha.
SME Firm Strategy in Response to Crises (IV)	Rai et al. (2021)	1. R&D 2. Sales Growth 3. Organisational Robustness	The validity of the constructs was tested using Exploratory Factor

This scale was measured using a 7-Point Likert Scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).			Analysis (EFA). The reliability of the scale was tested using Cronbach's Alpha.

3.5 Procedure for data collection

The procedure for collecting the primary data for this study was as follows;

The researcher had to complete an Ethics Application form stipulating the ethical considerations that would be followed for this study. This Ethics Application form had to be submitted to the Wits Business School Ethics Committee to obtain an Ethics Clearance Certificate prior to embarking on the collection of data. The conditions of data collection for this study were that anonymity and confidentiality was provided to the respondents in the online survey.

The primary data was collected through the use of a Qualtrics online survey. The link to the Qualtrics survey was shared with SME hubs and incubators within the Gauteng Province. Furthermore, the survey link was shared via LinkedIn, WhatsApp, and ResearchGate. The total number of respondents in this survey were 71. The total number of respondents that completed the survey were 51, and the total number of respondents that did not complete the survey were 20.

3.6 Data analysis and interpretation

The primary data that was collected from the online Qualtrics survey was analysed in the following way using IBM SPSS Statistics Version 28.0.1.0;

1. The raw dataset was cleaned to ensure data quality. This was done through the deletion of the missing values that were present in the dataset.
2. An analysis of the sample characteristics (demographics) of the respondents was conducted through the use of the descriptive statistics functionality. These results were illustrated through the use of graphs.
3. A validity test of the constructs was conducted. The validity test that was conducted was Exploratory Factor Analysis (EFA) through the use of the dimension reduction functionality.

4. A reliability test of the scales was conducted. The reliability test that was conducted was Cronbach's Alpha through the use of the reliability analysis functionality.
5. Composite scores of the constructs were conducted. This was achieved by combining the item loadings from the Pattern Matrix into separate composite scores.
6. Correlation analysis was conducted to examine the relationships between the variables. Pearson Correlation was used to test the relationships between the variables.
7. Assumption testing was conducted to ensure that there were no violations assumptions, and that they were all met.
8. Testing the stated hypotheses for this study was achieved by conducting multiple linear regression.

3.7 Validity and reliability of the study

3.7.1 Internal validity of the study

The internal validity of this study was tested by conducting Exploratory Factor Analysis (EFA). Exploratory Factor Analysis is a statistical technique used to reduce the number of loadings in a dataset while ensuring the retention of the original data (Field, 2013). Furthermore, the internal validity of this study was maintained by accepting item loadings that were > 0.7 for Cronbach's Alpha which is deemed reliable (Kline, 1999).

3.7.2 External validity of the study

The external validity of this study was tested through the adoption of non-probability sampling. The requirements for eligibility to partake in the online survey was that participants had to be SME Owner-Managers operating within the Gauteng Province in order to be deemed eligible for participation.

3.7.3 Reliability of the study

The reliability of the scales in this study were tested by running Cronbach's Alpha on IBM SPSS Statistics. Scales with a Cronbach's Alpha of > 0.7 were accepted since scales with a Cronbach's Alpha of > 0.7 are deemed reliable (Kline, 1999).

3.8 Limitations

The limitations encountered when collecting the primary data for this study were as follows;

1. The number of total responses received via the online survey. The number of total responses received during the data collection period was relatively low. This could be

attributed to numerous factors including but not limited to; apathy amongst eligible respondents, a lack of incentives, time constraints just to name a few.

2. Adopting an anonymity approach for this study. Adopting an anonymity approach for collecting the primary data might have put this study at a disadvantage in terms of collecting more primary data whilst maintaining non-bias in the study.
3. The research instrument (i.e., the online questionnaire) had some flaws. The flaw relevant to this questionnaire resulted in the factors containing more than 3 items. This flaw can be attributed to the fact that this study measured the impact of SME firm characteristics and SME firm strategy in response to the COVID-19 lockdown and the current energy crisis in South Africa respectively (See **Appendix B**).

3.9 Ethical considerations

The ethical considerations that were taken into account for this study were the following;

1. Academic integrity. This study was undertaken by the researcher-only (Zithulele Sizwe Ndlovu), under the guidance and supervision of his supervisor (Prof. Boris Urban). The researcher gave his full commitment to avoid any form of plagiarism in this study, and has declared that no form of plagiarism nor collusion took place during this study.
2. Anonymity of the respondents in the study. The identities of the respondents in the online Qualtrics survey were completely anonymous.
3. Confidentiality of the respondents in the study. The data that was collected from the respondents via the Qualtrics online survey was kept strictly confidential.
4. Data protection for the participants in the study. The data that was collected from the respondents was kept on a highly-secured/password protected device that was accessed by only the researcher.
5. Liberty/free will. No one was bound or forced to partake in the online Qualtrics survey if they did not want to. Individuals had the right to exit the online Qualtrics survey if they wanted to, and that was not held against them.

3.10 Conclusion of this chapter

In conclusion, this chapter provided a detailed account of the research methodolgy that was employed in this study. This chapter also covered the research approach/paradigm that was adopted for this study, the data collection and sampling methods that were used, the research

instrument that was used to collect the primary data, how the primary data was analysed as well as the ethical considerations when conducting this study.

CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

In this chapter, the results pertaining to the primary data collected for the purpose of this study is presented. In addition to this, a statistical analysis of the primary data collected was conducted. The statistical analysis software that was used to analyse the primary data for this study was IBM SPSS Statistics Version 28.0.1.0.

4.2 Demographics of the respondents

Table 6: Summary of the responses via Qualtrics

Total number of responses	71
Total number of complete responses	51
Total number of incomplete responses	20

As indicated in Table 5, the total number of responses collected via the Qualtrics online survey were 71 responses however, only 51 responses were complete responses (i.e., there were 20 incomplete responses). As a result, this study made use of the 51 complete responses (i.e., the 20 incomplete responses were discarded).

Table 7: Descriptive Statistics

Statistics

		Gender	Age Group	Race	Highest Level of Education	Field of Study	Form of Ownership	Industry	Age of the Business (Years)	Size of the Business (Employees)	Location of the Business (City)
N	Valid	51	51	51	51	51	51	51	51	51	51
	Missing	0	0	0	0	0	0	0	0	0	0

As a result of the 20 incomplete responses via the Qualtrics online survey, there were some missing values present in the raw dataset. To avoid any ambiguity during the analysis of this dataset, the 20 incomplete responses were discarded from the analysis therefore, resulting in the analysis of the 51 complete responses. The number of respondents (i.e., SME Owner-Managers) that participated in this online survey were 51. There were no missing values present in this dataset.

4.2.1 Respondents' Gender

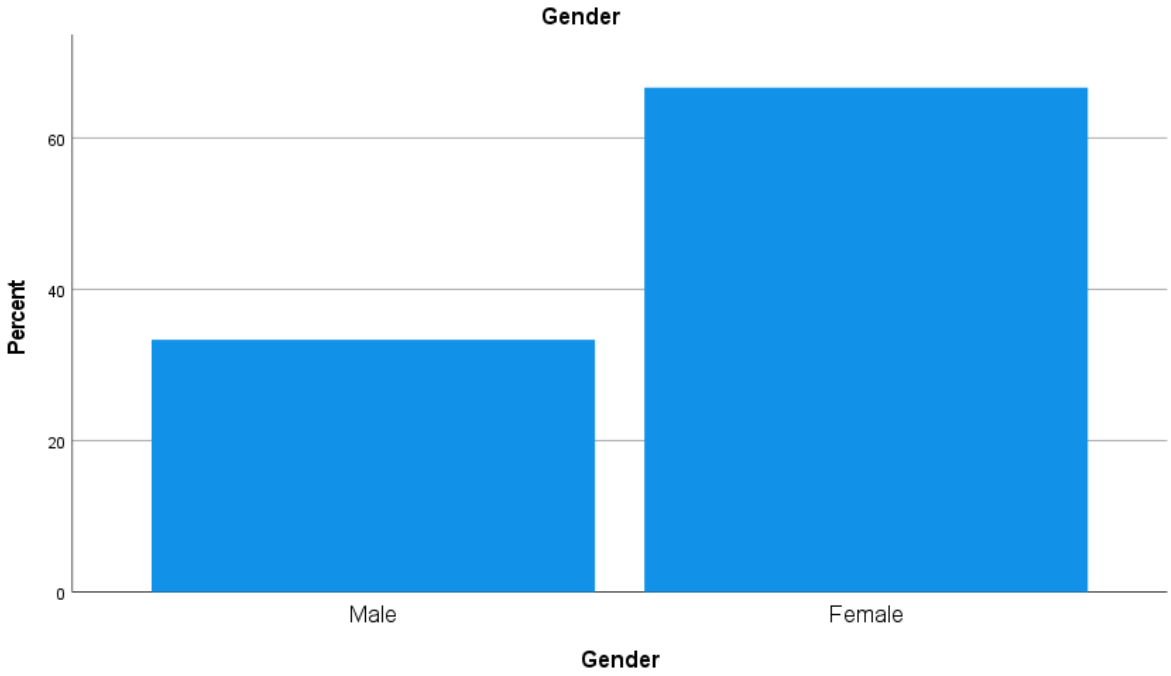


Figure 4: Respondents' Gender

The majority of the SME Owner-Managers who responded to this online survey were female. 66.7% of the respondents (i.e., 34 SME Owner-Managers) were female, and 33.3% of the respondents (i.e., 17 SME Owner-Managers) were male.

4.2.2 Respondents' Age Group

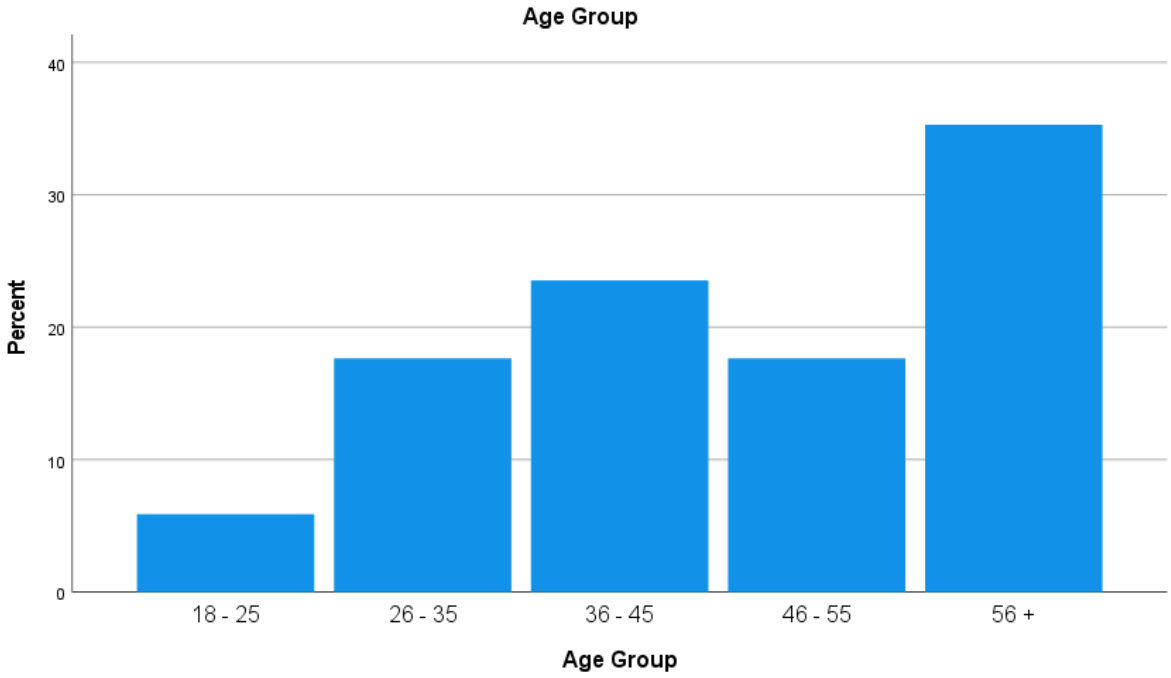


Figure 5: Respondents' Age Group

The majority of the SME Owner-Managers who responded to this online survey were 56 years and older. 35.3% of the respondents (i.e., 18 SME Owner-Managers) were 56 years and older, 5.9% of the respondents (i.e., 3 SME Owner-Managers) were between the ages of 18 and 25 years, 17.6% of the respondents (i.e., 9 SME Owner-Managers) were between the ages of 26 and 35 years, 23.5% of the respondents (i.e., 12 SME Owner-Managers) were between the ages of 36 and 45 years, and 17.6% of the respondents (i.e., 9 SME Owner-Managers) were between the ages of 46 and 55 years.

4.2.3 Respondents' Race

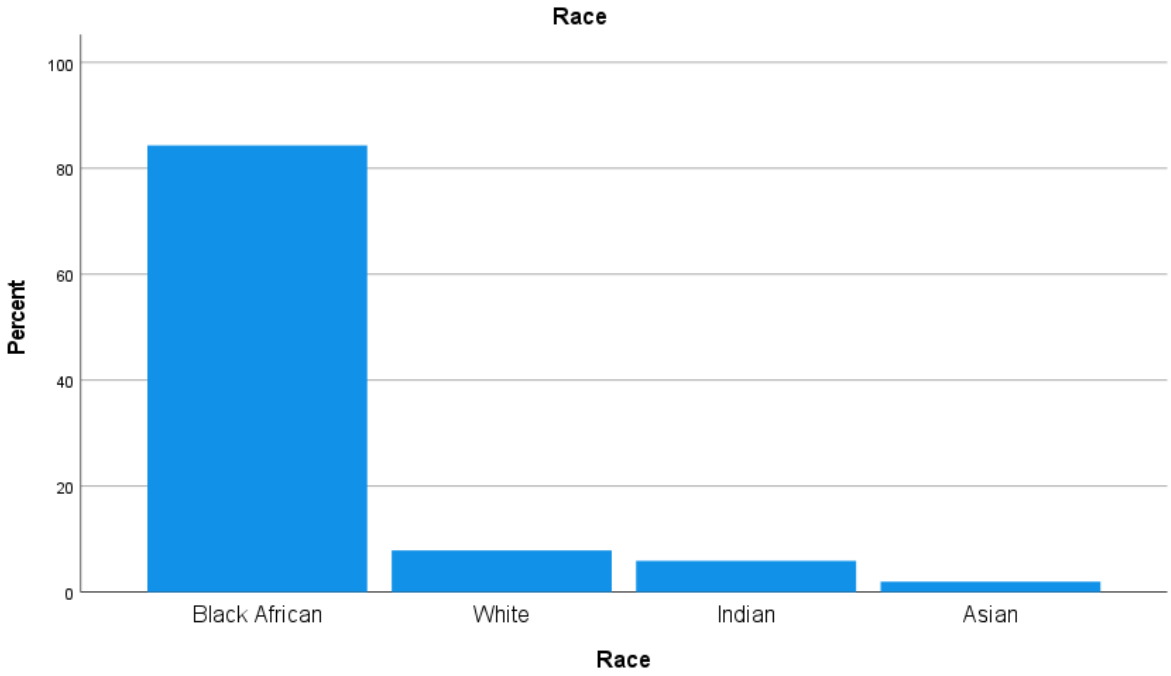


Figure 6: Respondents' Race

The majority of the SME Owner-Managers who responded to this online survey were Black African. 84.3% of the respondents (i.e., 43 SME Owner-Managers) were Black African, 7.8% of the respondents (i.e., 4 SME Owner-Managers) were White, 5.9% of the respondents (i.e., 3 SME Owner-Managers) were Indian, and 2% of the respondents (i.e., 1 SME Owner-Manager) were Asian.

4.2.4 Respondents' Highest Level of Education

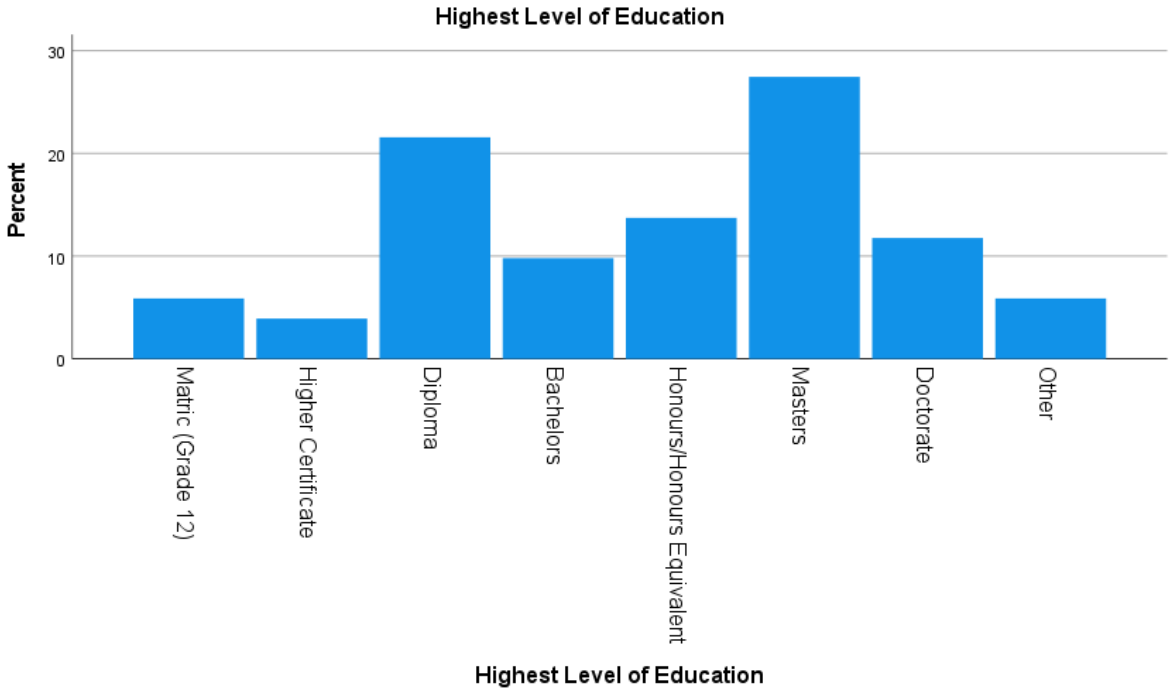


Figure 7: Respondents' Highest Level of Education

The majority of the SME Owner-Managers who responded to this online survey were educated at a Masters level. 27.5% of the respondents (i.e., 14 SME Owner-Managers) were educated at a Masters level, 5.9% of the respondents (i.e., 3 SME Owner-Managers) were educated at a Matric (Grade 12) level, 3.9% of the respondents (i.e., 2 SME Owner-Managers) were educated at a Higher Certificate level, 21.6% of the respondents (i.e., 11 SME Owner-Managers) were educated at a Diploma level, 9.8% of the respondents (i.e., 5 SME Owner-Managers) were educated at a Bachelors level, 13.7% of the respondents (i.e., 7 SME Owner-Managers) were educated at an Honours/Honours Equivalent level, and 11.8% of the respondents (i.e., 6 SME Owner-Managers) were educated at a Doctorate level.

4.2.5 Respondents' Field of Study

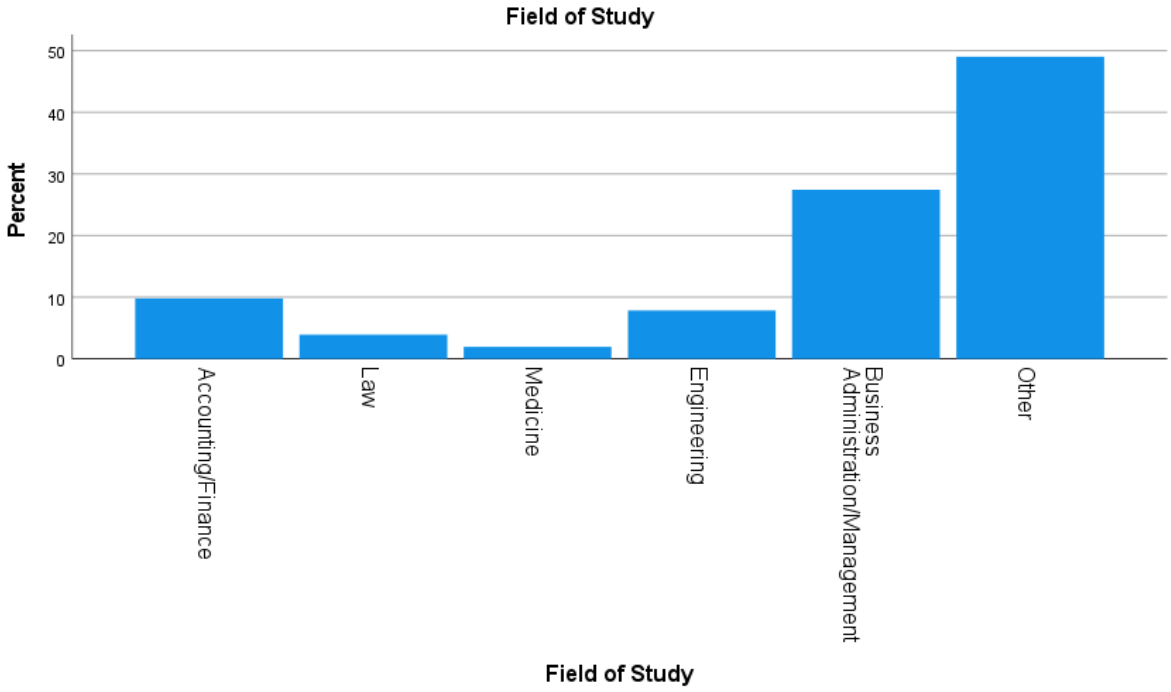


Figure 8: Respondents' Field of Study

The majority of the SME Owner-Managers who responded to this online survey specialised in "Other" fields of study. 49% of the participants (i.e., 25 SME Owner-Managers) specialised in "Other" fields of study, 9.8% of the respondents (i.e., 5 SME Owner-Managers) specialised in Accounting/Finance, 3.9% of the respondents (i.e., 2 SME Owner-Managers) specialised in Law, 2% of the respondents (i.e., 1 SME Owner-Manager) specialised in Medicine, 7.8% of the respondents (i.e., 4 SME Owner-Managers) specialised in Engineering, and 27.5% of the respondents (i.e., 14 SME Owner-Managers) specialised in Business Administration/Management.

4.2.6 Respondents' Form of Ownership

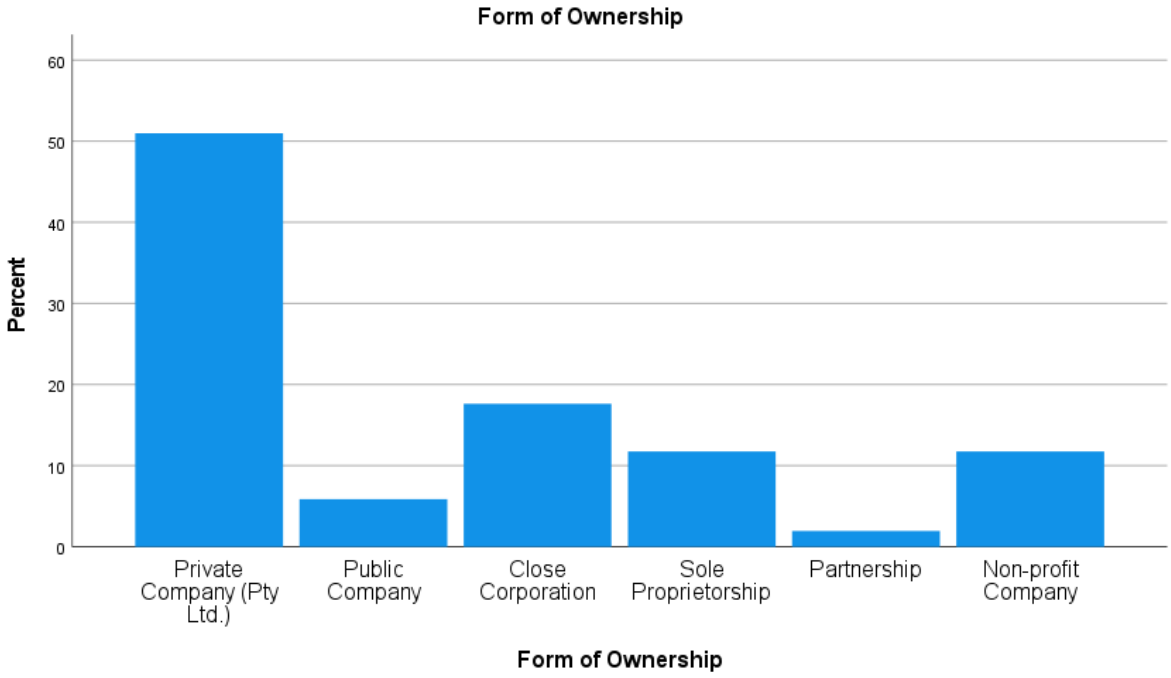


Figure 9: Respondents' Form of Ownership

The majority of the SME Owner-Managers who responded to this online survey own a Private Company (Pty Ltd.). 51% of the respondents (i.e., 26 SME Owner-Managers) own a Private Company (Pty Ltd.), 5.9% of the respondents (i.e., 3 SME Owner-Managers) own a Public Company, 17.6% of the respondents (i.e., 9 SME Owner-Managers) own a Close Corporation, 11.8% of the respondents (i.e., 6 SME Owner-Managers) own a Sole Proprietorship, 2% of the respondents (i.e., 1 SME Owner-Manager) own a Partnership, and 11.8% of the respondents (i.e., 6 SME Owner-Managers) own a Non-profit Company.

4.2.7 Respondents' Industry

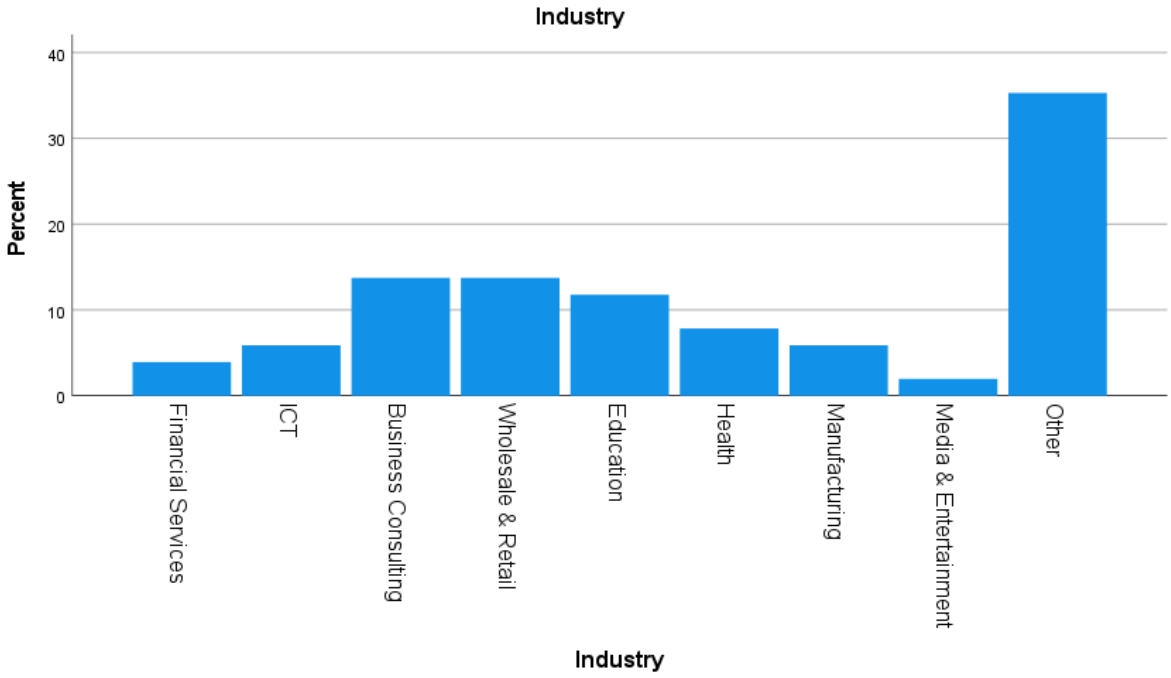


Figure 10: Respondents' Industry

The majority of the SME Owner-Managers who responded to this online survey have SMEs operating in "Other" industries. 35.3% of the respondents (i.e., 18 SME Owner-Managers), 3.9% of the respondents (i.e., 2 SME Owner-Managers) have SMEs operating in the Financial Services industry, 5.9% of the respondents (i.e., 3 SME Owner-Managers) have SMEs operating in the ICT industry, 13.7% of the respondents (i.e., 7 SME Owner-Managers) have SMEs operating in the Business Consulting industry, 13.7% of the respondents (i.e., 7 SME Owner-Managers) have SMEs operating in the Wholesale & Retail industry, 11.8% of the respondents (i.e., 6 SME Owner-Managers) have SMEs operating in the Education industry, 7.8% of the respondents (i.e., 4 SME Owner-Managers) have SMEs operating in the Health industry, 5.9% of the respondents (i.e., 3 SME Owner-Managers) have SMEs operating in the Manufacturing industry, and 2% of the respondents (i.e., 1 SME Owner-Manager) have SMEs operating in the Media & Entertainment industry.

4.2.8 Respondents' Age of the Business (Years)

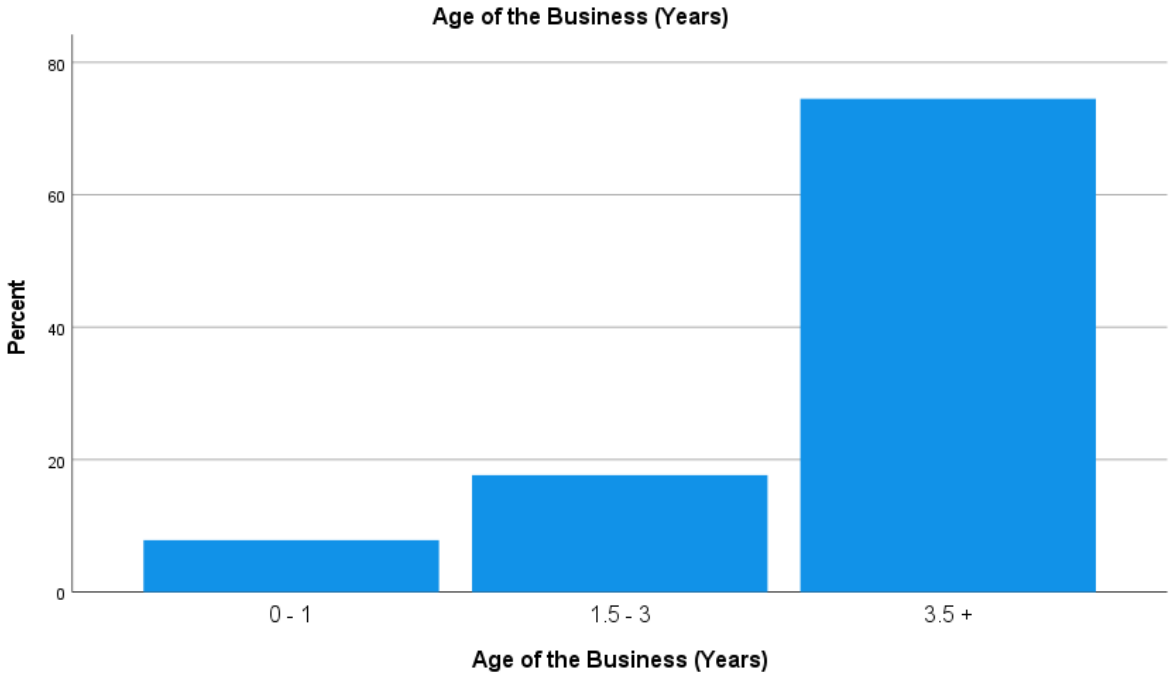


Figure 11: Respondents' Age of the Business (Years)

The majority of the SME Owner-Managers who responded to this online survey have SMEs that are 3.5 years and older. 74.5% of the respondents (i.e., 38 SME Owner-Managers) have SMEs aged 3.5 years and older. 7.8% of the respondents (i.e., 4 SME Owner-Managers) have SMEs between 0 and 1 year, and 17.6% of the respondents (i.e., 9 SME Owner-Managers) have SMEs aged between 1.5 and 3 years.

4.2.9 Respondents' Size of the Business (Employees)

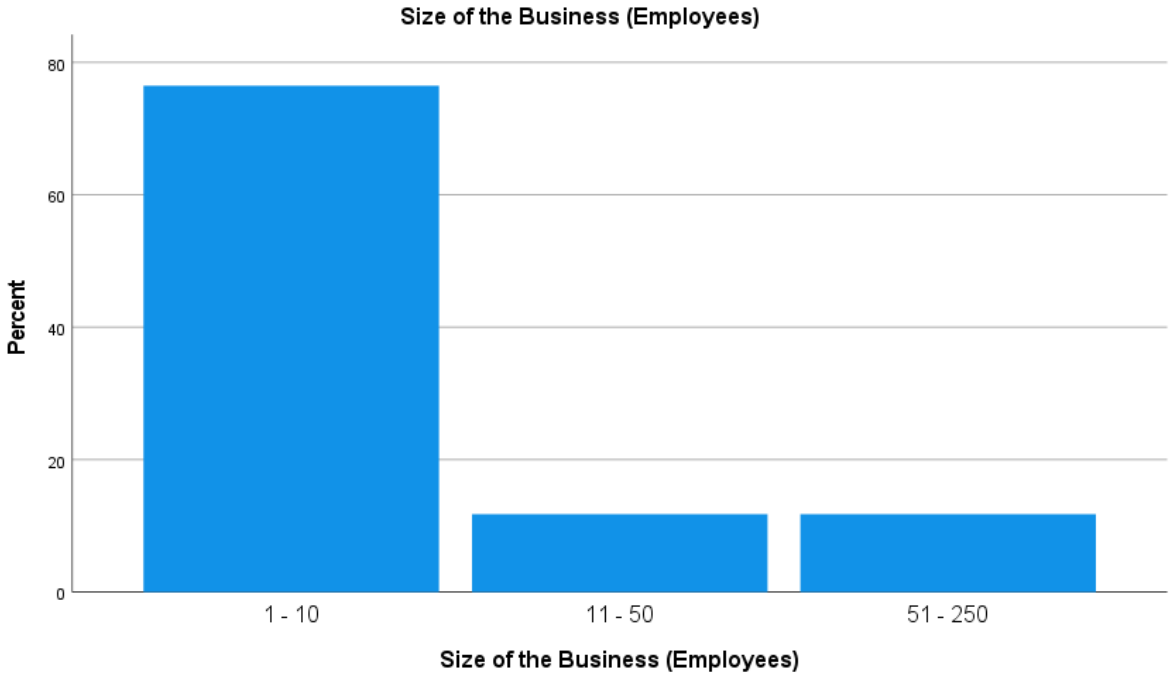


Figure 12: Respondents' Size of the Business (Employees)

The majority of the SME Owner-Managers who responded to this online survey have between 1 and 10 employees in their SMEs. 76.5% of the respondents (i.e., 39 SME Owner-Managers) have between 1 and 10 employees in their SMEs, 11.8% of the respondents (i.e., 6 SME Owner-Managers) have between 11 and 50 employees in their SMEs, and 11.8% of the respondents (i.e., 6 SME Owner-Managers) have between 51 and 250 employees in their SMEs.

4.2.10 Respondents' Location of the Business (City)

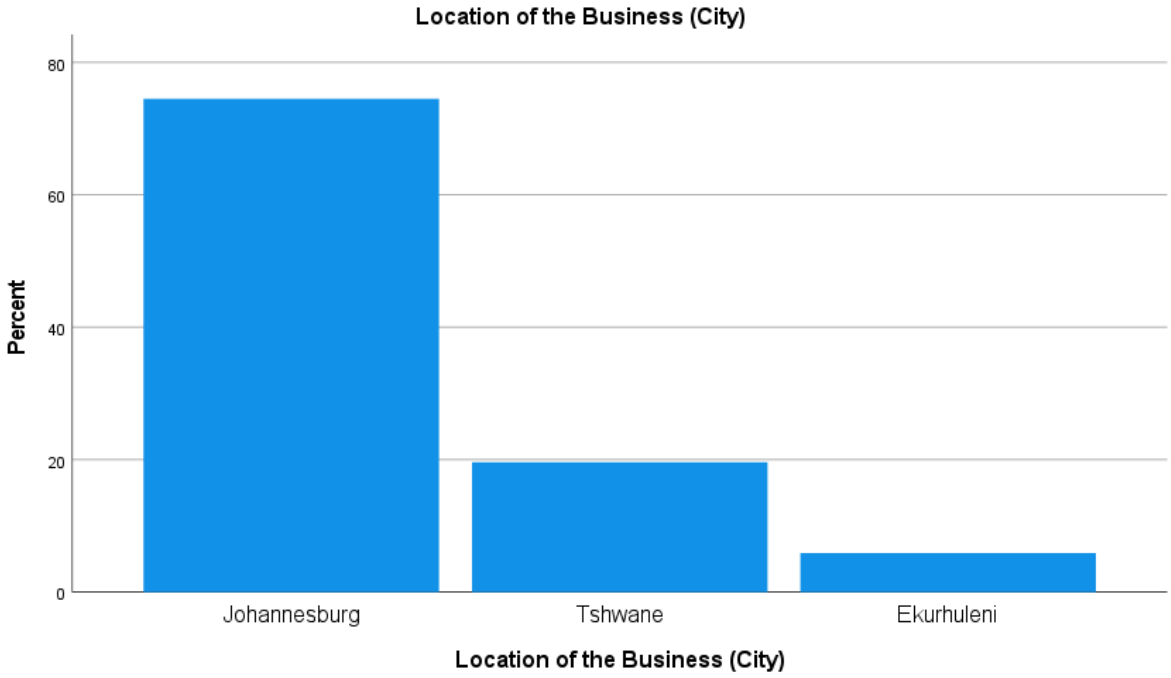


Figure 13: Respondents' Location of the Business (City)

The majority of the SME Owner-Managers who responded to this online survey have SMEs operating within the City of Johannesburg. 74.5% of the respondents (i.e., 38 SME Owner-Managers) have SMEs operating within the City of Johannesburg, 19.6% of the respondents (i.e., 10 SME Owner-Managers) have SMEs operating within the City of Tshwane, and 5.9% of the respondents (i.e., 3 SME Owner-Managers) have SMEs operating within the City of Ekurhuleni.

4.3 Descriptive analysis of scales

4.3.1 Validity of the constructs

The statistical technique that was used for testing the validity of the constructs was Exploratory Factor Analysis (EFA). Exploratory Factor Analysis is a statistical technique used to reduce the number of loadings in a dataset while ensuring the retention of the original data (Field, 2013).

Table 8: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.735
Bartlett's Test of Sphericity	Approx. Chi-Square	1184.044
	df	351
	Sig.	<,001

The extraction method that was used was Principal axis factoring. Principal axis factoring can be defined as a factor extraction technique that is used to restrict the statistical outcomes based on the sample obtained (Field, 2013). The rotation method that was used was Promax. Promax can be defined as a rotation method that is used to analyse large data sets (Field, 2013). The absolute value below was set at 0.4. According to Pituch and Stevens (2015) retaining factors > 0.364 is deemed a good fit when conducting EFA.

The Determinant of the constructs was E-013 (Exponent 0) which is deemed acceptable since the value was > 0.00001 (Field, 2013). The Kaiser-Meyer-Olkin (KMO) was 0.735 which is deemed acceptable since the value is > 0.5 (Field, 2013). The Bartlett's Test of Sphericity was significant since the p-value (Sig.) was <,001 which is deemed acceptable since the value is < 0.5 (Field, 2013). In summary, there were no assumptions that were violated.

4.3.2 Communality values for the individual items

There were 7 factors that were extracted, and the Eigenvalue of the Total Variance Explained was 1.107 (1.1). This is deemed acceptable since the Eigenvalue of the Total Variance Explained is > 1. The Cumulative percentage of the 7 factors extracted was 80.684 (80%). This is deemed acceptable since the 7 factors that were extracted explained 80% of the data in this study therefore, the Total Variance Explained is acceptable since the value is > 60%.

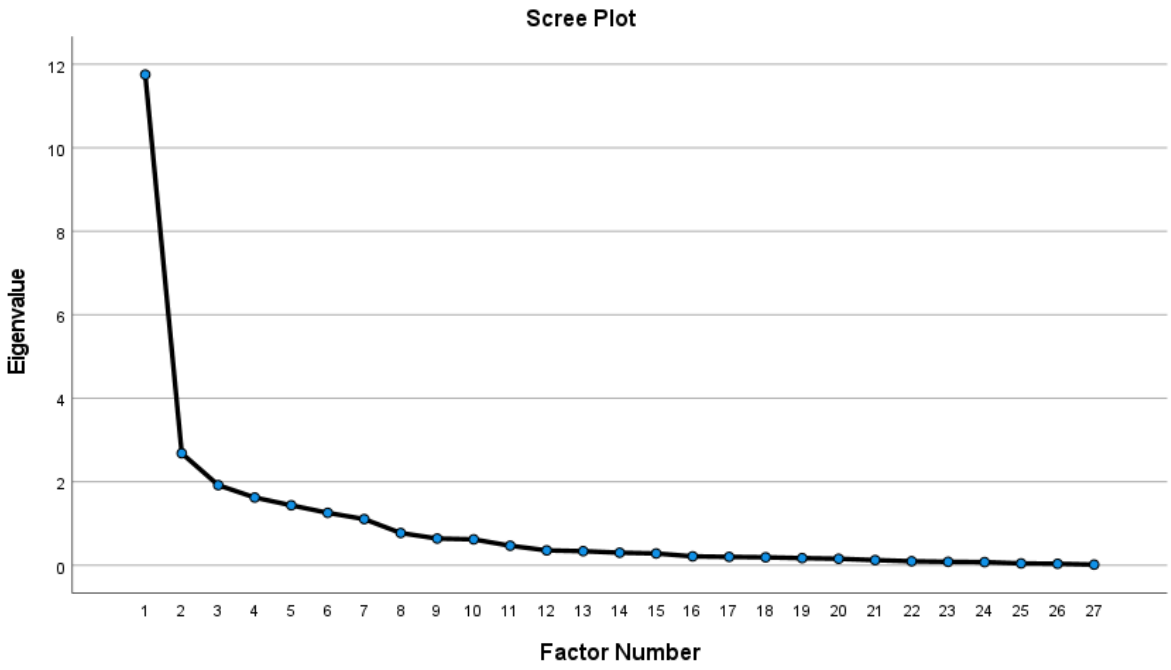


Figure 14: Scree Plot

As illustrated in Figure 14, the Scree Plot indicates that the Point of Inflexion was found at Factor Number 7 therefore, concurring with the number of factors that were extracted during EFA.

4.3.3 The retained constructs

Table 9: Initial Factor Structure (Uncleaned)

Pattern Matrix[a]

	Factor									
	1	2	3	4	5	6	7	8	9	10
RES_20	1.027									
RES_10	.949									
RES_13	.939									
RES_16	.922									
RES_18	.857									
FS_9	.822									
RES_15	.807									
RES_17	.796					.410				
RES_14	.697									
FS_8	.615		.491							
FS_10	.547									
RES_19	.460									
FC_13	.451									
FS_4										
RES_3										
FS_3		.905								
FC_6		.900								
FC_5		.831								
RES_4		.522								
FC_12	.412	.488								
RES_5		.484				.439				
FS_11										
FS_2										
FS_7			.868							
FS_13			.755							
FS_6			.621							
FS_5		.459	.560							
FS_14			.413			.404				
FS_12										
RES_2				.853						
RES_12				.847						
RES_1				.729						
RES_11				.709						
FC_7				.416						
FC_8					1.044					
FC_9					.880					
RES_9						.599				
RES_6						.595				
RES_7	.420					.559				
RES_8										
FC_3							-.709			
FC_4							-.657			
FC_2								.877		
FC_1					.486			.499		
FC_11									.689	
FC_14					.505				.549	
FC_10							-.411		.440	
FS_1										.529

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 22 iterations.

As shown in Table 9, the Pattern Matrix for this study required some cleaning as some of the loadings were cross-loading, negative loading, and contained empty-loadings.

Table 10: Final Factor Structure (Cleaned)

Pattern Matrix[a]

	Factor						
	1	2	3	4	5	6	7
RES_10	1.056						
RES_20	.946						
RES_16	.903						
RES_13	.868						
FS_9	.788						
RES_18	.737						
RES_14	.608						
RES_15	.580						
RES_19	.509						
RES_5		.917					
RES_7		.853					
RES_6		.825					
RES_4		.764					
RES_9		.643					
FC_6		.458					
RES_1			.884				
RES_11			.880				
RES_2			.771				
RES_12			.751				
FS_7				.969			
FS_13				.747			
FS_6				.576			
FC_8					.981		
FC_9					.928		
FC_2						.828	
FC_11							.737
FC_14							.668

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations.

As shown in Table 10, after cleaning the Pattern Matrix there were no longer any cross-loadings, negative loadings, nor empty-loadings (Field, 2013). The items coded ‘FC’ represented SME Firm Characteristics in Response to Crises, items coded ‘FS’ represented SME Firm Strategy in Response to Crises, and items coded ‘RES’ represented SME Resilience. Considering that the online questionnaire sought to measure SME Firm Characteristics in Response to Crises for the COVID-19 Lockdown and the Current Energy Crisis respectively, SME Firm Strategy in Response to Crises for the COVID-19 Lockdown

and the Current Energy Crisis respectively, and SME Resilience for the COVID-19 Lockdown and the Current Energy Crisis respectively this resulted in more than 3 factors and/or scales in analysis.

4.3.4 Reliability of the scale

The statistical technique that was used to test the reliability of the scale was Cronbach's Alpha. Cronbach's Alpha can be defined as a reliability analysis technique that is used to measure the correlation coefficient of items in a scale (Cronbach, 1951).

Table 11: Scale 1

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.953	.953	9

As shown in Table 11, the number of items in Scale 1 (Factor 1) were 9 items, and the Cronbach's Alpha of this scale was 0.953 therefore, this scale was reliable since it was > 0.7 (Kline, 1999).

Table 12: Scale 2

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.891	.892	6

As shown in Table 12, the number of items in Scale 2 (Factor 2) were 6 items, and the Cronbach's Alpha of this scale was 0.891 therefore, this scale was reliable since it was > 0.7 (Kline, 1999).

Table 13: Scale 3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.905	.907	4

As shown in Table 13, the number of items in Scale 3 (Factor 3) were 4 items, and the Cronbach's Alpha of this scale was 0.905 therefore, this scale was reliable since it was > 0.7 (Kline, 1999).

Table 14: Scale 4

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.863	.864	3

As shown in Table 14, the number of items in Scale 4 (Factor 4) were 3 items, and the Cronbach's Alpha of this scale was 0.863 therefore, this scale was reliable since it was > 0.7 (Kline, 1999).

Table 15: Scale 5

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.872	.873	2

As shown in Table 15, the number of items in Scale 5 (Factor 5) were 2 items, and the Cronbach's Alpha of this scale was 0.872 therefore, this scale was reliable since it was > 0.7 (Kline, 1999).

Table 16: Scale 6

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.486	.488	2

As shown in Table 16, the number of items in Scale 6 (Factor 7) were 2 items, and the Cronbach's Alpha of this scale was 0.486 therefore, this scale was unreliable since it was < 0.7 (Kline, 1999).

The reliability test for Factor 6 could not be conducted due to the fact that the factor contained a single loading instead of multiple loadings. In addition to that, Scale 6 (Factor 7) had a Cronbach's Alpha of 0.486 therefore, the scale was unreliable since it was < 0.7. As a result, only the 5 reliable scales were used for analysis. Furthermore, Scale 1 (Factor 1) retained 9 items, similar to Kantur and Say (2015) when measuring organisational resilience using a 9-item scale.

4.3.5 Normality test

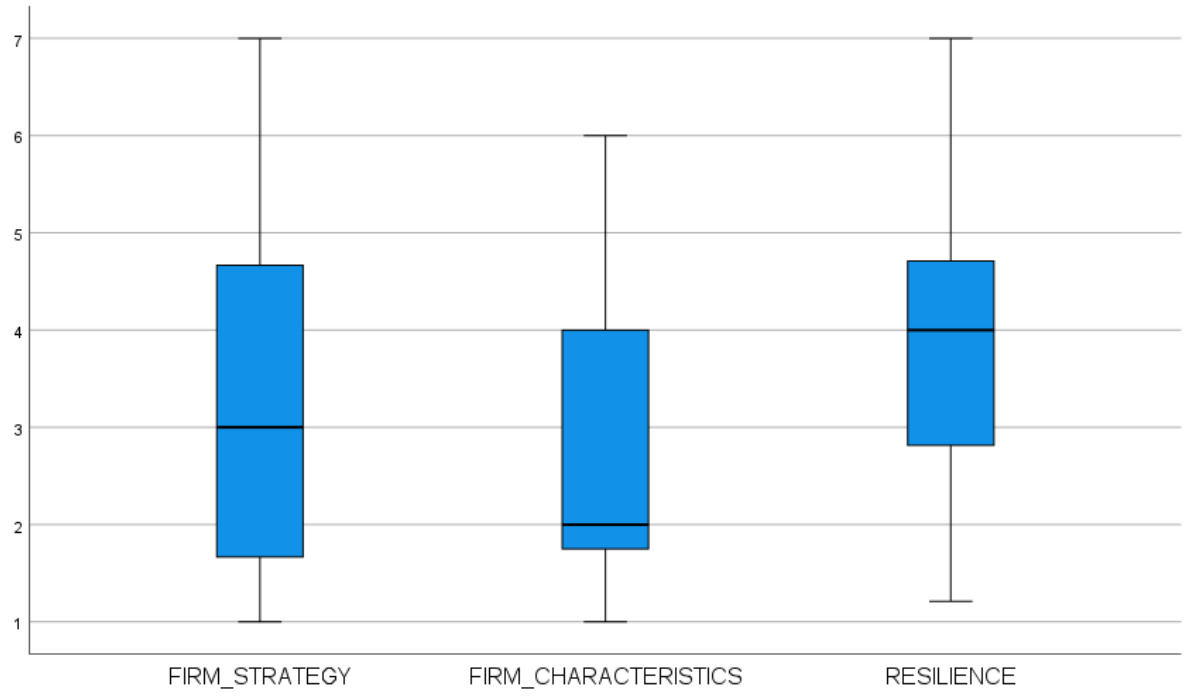


Figure 15: Boxplot

As shown in Figure 15, there were no outliers present in the composite scores as a result of data cleaning to ensure the quality of the dataset. The composite scores for FIRM_STRATEGY had no present outliers, the composite scores for FIRM_CHARACTERISTICS had no present outliers, and the composite scores for RESILIENCE had no present outliers.

In summary, there were no outliers present in the composite scores therefore, Assumption 1 regarding outliers was met.

Table 17: Normality Test of Variables

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
FIRM_STRATEGY	51	6.00	1.00	7.00	3.3529	1.81771	.304	.333	-1.134	.656
FIRM_CHARACTERISTICS	51	5.00	1.00	6.00	2.8627	1.65251	.608	.333	-.837	.656
RESILIENCE	51	5.79	1.21	7.00	3.9009	1.31244	-.102	.333	-.225	.656
Valid N (listwise)	51									

Skewness of the Variables

FIRM_STRATEGY;

As shown in Table 17, the Skewness of FIRM_STRATEGY was 0.304, and the z-score of Skewness was 0.912. The z-score of Skewness was calculated as follows;

$$Z_{\text{skewness}} = \frac{0.304}{0.333}$$
$$= 0.912$$

Therefore, FIRM_STRATEGY was normally distributed since the z-score of Skewness was < 1.96 (Field, 2013).

FIRM_CHARACTERISTICS;

The Skewness of FIRM_CHARACTERISTICS was 0.608, and the z-score of Skewness was 1.825. The z-score of Skewness was calculated as follows;

$$Z_{\text{skewness}} = \frac{0.608}{0.333}$$
$$= 1.825$$

Therefore, FIRM_CHARACTERISTICS was normally distributed since the z-score of Skewness was < 1.96 (Field, 2013).

RESILIENCE;

The Skewness of RESILIENCE was – 0.102, and the z-score of Skewness was – 0.306. The z-score of Skewness was calculated as follows;

$$Z_{\text{skewness}} = \frac{-0.102}{0.333}$$
$$= -0.306$$

Therefore, RESILIENCE was normally distributed since the z-score of Skewness was < 1.96 (Field, 2013).

Kurtosis of the Variables

FIRM_STRATEGY;

The Kurtosis of FIRM_STRATEGY was – 1.134, and the z-score of Kurtosis was – 1.679. The z-score of Kurtosis was calculated as follows;

$$Z_{\text{kurtosis}} = \frac{-1.102}{0.656}$$
$$= -1.679$$

Therefore, FIRM_STRATEGY was normally distributed since the z-score of Kurtosis was < 1.96 (Field, 2013).

FIRM_CHARACTERISTICS;

The Kurtosis of FIRM_CHARACTERISTICS was – 0.837, and the z-score of Kurtosis was – 1.275. The z-score of Kurtosis was calculated as follows;

$$Z_{\text{kurtosis}} = \frac{-0.837}{0.656}$$
$$= -1.275$$

Therefore, FIRM_CHARACTERISTICS was normally distributed since the z-score of Kurtosis was < 1.96 (Field, 2013).

RESILIENCE;

The Kurtosis of RESILIENCE was – 0.225, and the z-score of Kurtosis was – 0.342. The z-score of Kurtosis was calculated as follows;

$$z_{\text{kurtosis}} = \frac{-0.225}{0.656}$$
$$= -0.342$$

Therefore, RESILIENCE was normally distributed since the z-score of Kurtosis was < 1.96 (Field, 2013).

In summary, all variables were normally distributed.

4.3.6 Correlation Analysis

Table 18: Correlation Analysis

Correlations

		FIRM_STRATEGY	FIRM_CHARACTERISTICS	RESILIENCE
FIRM_STRATEGY	Pearson Correlation	--		
	N	51		
FIRM_CHARACTERISTICS	Pearson Correlation	.276*	--	
	Sig. (2-tailed)	.050		
	N	51	51	
RESILIENCE	Pearson Correlation	.658**	.363**	--
	Sig. (2-tailed)	<,001	.009	
	N	51	51	51

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 18, there was a perfect correlation between FIRM_STRATEGY and FIRM_STRATEGY, FIRM_CHARACTERISTICS and FIRM_CHARACTERISTICS, and RESILIENCE and RESILIENCE. This was due to the fact that the variables were correlated against each other.

There was a positive correlation between FIRM_STRATEGY and RESILIENCE. The magnitude of the construct was 0.658** therefore, the relationship between the two variables was high since the magnitude was > 0.5 (Field, 2013). The p-value (Sig.) was <,001 therefore, the outcome was statistically significant at the 0.01 level.

There was a positive correlation between FIRM_CHARACTERISTICS and RESILIENCE. The magnitude of the construct was 0.363** therefore, the relationship between the two variables was moderate since the magnitude was > 0.3 (Field, 2013). The p-value (Sig.) was .009 therefore, the outcome was statistically significant at the 0.01 level.

Furthermore, these results indicated that there were no linearity assumptions that were violated since the variables were significantly correlated. In summary, this assumption (Assumption 2) was met.

4.3.7 Regression assumption

The statistical technique that was used for testing the stated hypotheses for this study was multiple linear regression.

Table 19: Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.685[a]	.469	.447	.97637	.469	21.172	2	48	<,001	2.501

a. Predictors: (Constant), FIRM_STRATEGY, FIRM_CHARACTERISTICS

b. Dependent Variable: RESILIENCE

As shown in Table 19, the R-value of Model 1 was 0.685 (68.5%) therefore, there is a 68.5% correlation between RESILIENCE, FIRM_CHARACTERISTICS, and FIRM_STRATEGY.

The R Square of Model 1 was 0.469 (46.9%) therefore, 46.9% of RESILIENCE was explained by FIRM_CHARACTERISTICS and FIRM_STRATEGY. In summary, FIRM_CHARACTERISTICS and FIRM_STRATEGY had an influence on RESILIENCE.

Furthermore, these results indicated that there was no autocorrelation since the Durbin-Watson was not > 2.50 (Field, 2013). In summary, Assumption 3 regarding the cut-off was met.

Table 20: ANOVA Table

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.367	2	20.183	21.172	<,001[b]
	Residual	45.759	48	.953		
	Total	86.125	50			

a. Dependent Variable: RESILIENCE

b. Predictors: (Constant), FIRM_STRATEGY, FIRM_CHARACTERISTICS

As shown in Table 20, the p-value (Sig.) of Model 1 was <,001 therefore, Model 1 is deemed a significant model since the p-value (Sig.) was < 0.05 (Field, 2013).

Table 21: Coefficients Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.992	.338		5.889	<,001	1.312	2.672		
	FIRM_CHARACTERISTICS	.156	.087	.197	1.797	.079	-.019	.331	.924	1.083
	FIRM_STRATEGY	.436	.079	.604	5.515	<,001	.277	.595	.924	1.083

a. Dependent Variable: RESILIENCE

As shown in Table 21, the Standardized Coefficients Beta for FIRM_CHARACTERISTICS was 0.197, meaning that FIRM_CHARACTERISTICS had a positive influence RESILIENCE. However, the p-value (Sig.) for FIRM_CHARACTERISTICS was 0.079 which is > 0.05 (Field, 2013) therefore, FIRM_CHARACTERISTICS was statistically non-significant.

The Standardized Coefficients Beta for FIRM_STRATEGY was 0.604, meaning that FIRM_STRATEGY had a positive influence on RESILIENCE. The p-value (Sig.) for FIRM_STRATEGY was <,001 which is < 0.05 (Field, 2013) therefore, FIRM_STRATEGY was statistically significant.

In addition to that, the Tolerance value for FIRM_CHARACTERISTICS was 0.924 which is deemed acceptable since the value was > 0.2 (Menard, 1995). The VIF value was 1.083 which is deemed acceptable since the value was < 10 (Myers, 1990). The Tolerance value for FIRM_STRATEGY was 0.924 which is deemed acceptable since the value was > 0.2

(Menard, 1995). The VIF value was 1.083 which is deemed acceptable since the value was < 10 (Myers, 1990).

In summary, FIRM_CHARACTERISTICS did not have a significant influence on RESILIENCE because the p-value (Sig.) was > 0.05 (Field, 2013) however, FIRM_STRATEGY had a significant influence on RESILIENCE because the p-value (Sig.) was < 0.05 (Field, 2013). Furthermore, there were no collinearity nor multicollinearity issues in the Model since the Tolerance value was > 0.2, and the VIF value was < 10. As a result, Assumption 4 regarding multicollinearity was met.

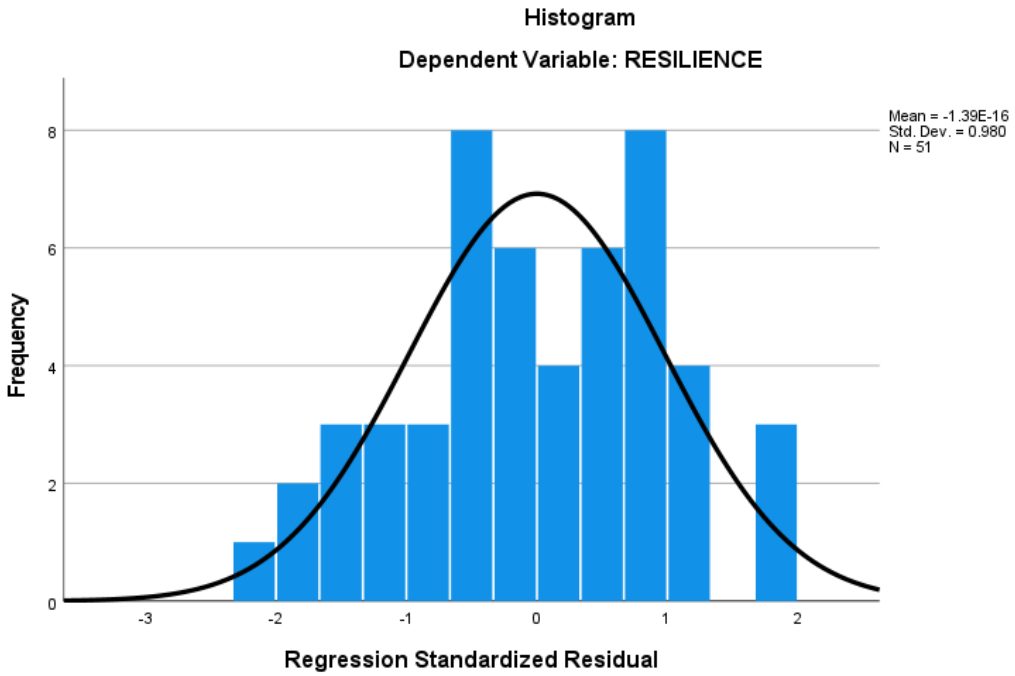


Figure 16: Histogram

As indicated in Figure 16, the bell curve present in the histogram fits properly therefore, indicating that there was normal distribution (Field, 2013). As a result, Assumption 5 regarding Normality of Errors was met.

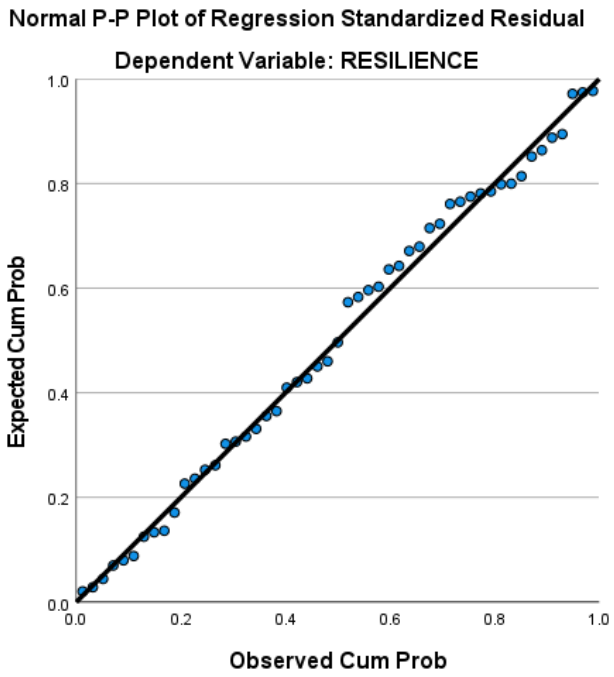


Figure 17: Normal P-P Plot of Regression

As seen in Figure 17, some of the data points seem to be slightly deviating from the diagonal line however, most of the data points seem to be following a straight-line using the diagonal line therefore, indicating normality (Field, 2013). As a result, Assumption 6 regarding Normality of Errors was met.

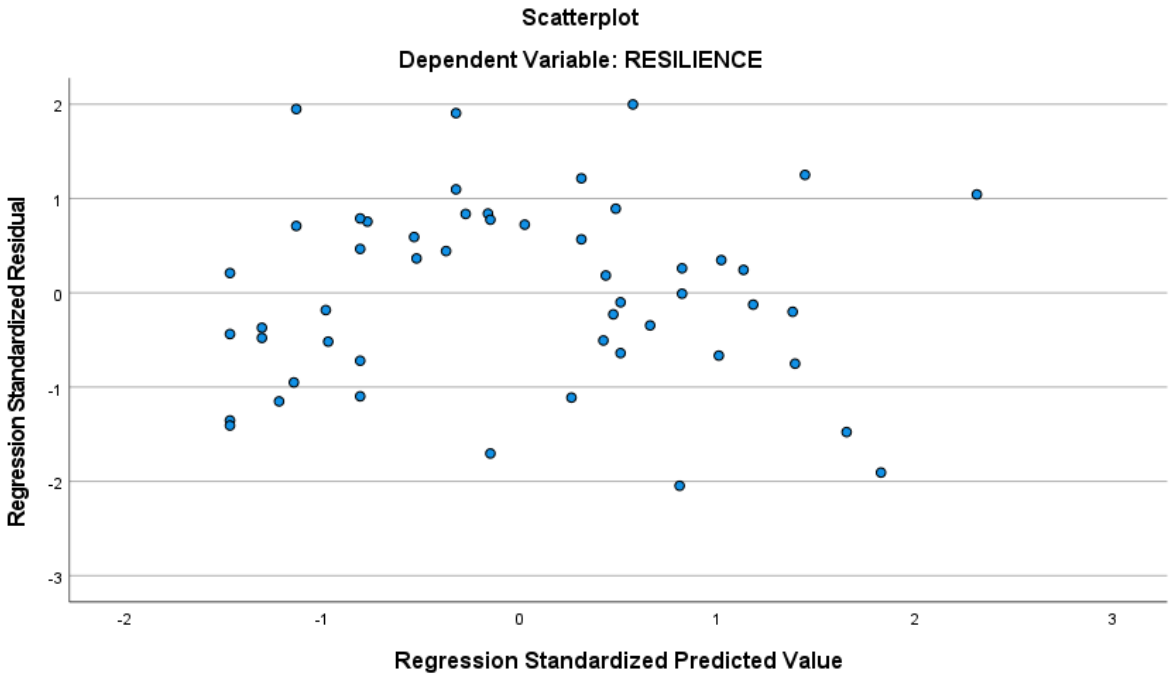


Figure 18: Scatterplot

As shown in Figure 18, the data points present in the scatterplot were within the parameters of the Y and X axis, and were scattered around. Therefore, this assumption (Assumption 7) was met.

3.9 Results in relation to the hypotheses

3.9.1 Results in relation to Hypothesis 1

SME firm characteristics in response to crises have an impact on SME Resilience

The first stated hypothesis for this study was that SME firm characteristics in response to crises have an impact on SME resilience in the Gauteng Province. The results indicated that there was a positive relationship between SME firm characteristics in response to crises and SME resilience. The magnitude between the two variables was low. The p-value (Sig.) for SME firm characteristics in response to crises was 0.079 which was > 0.05 therefore, the impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province was statistically non-significant. In summary, this stated hypothesis was rejected.

3.9.2 Results in relation to Hypothesis 2

SME firm strategy in response to crises has an impact on SME Resilience

The second stated hypothesis for this study was that SME firm strategy in response to crises has an impact on SME resilience in the Gauteng Province. The results indicated that there was a positive relationship between SME firm strategy in response to crises and SME resilience. The magnitude between the two variables was high. The p-value (Sig.) for SME firm strategy in response to crises was <,001 which was < 0.05 therefore, the impact of SME firm strategy in response to crises on SME resilience was statistically significant. In summary, this stated hypothesis was accepted.

4.5 Control variables in the study

4.5.1 Age of the Business (Years)

The relationship between the Age of the Business (Years) and SME Resilience

Conducting the One-way ANOVA test between the age of the business (years) and SME resilience indicated that there was a non-significant relationship between the age of the

business (years) and SME resilience. The p-value (Sig.) was 0.608 which was > 0.05 therefore, the relationship was non-significant (Field, 2013).

4.5.2 Size of the Business (Employees)

The relationship between the Size of the Business (Employees) and SME Resilience

Conducting the One-way ANOVA test between the size of the business (employees) and SME resilience indicated that there was a non-significant relationship between the size of the business (employees) and SME resilience. The p-value (Sig.) was 0.216 which was > 0.05 therefore, the relationship was non-significant (Field, 2013).

4.5.3 Location of the Business (City)

The relationship between the Location of the Business (City) and SME Resilience

Conducting the One-way ANOVA test between the location of the business (city) and SME resilience indicated that there was a non-significant relationship between the location of the business (city) and SME resilience. The p-value (Sig.) was 0.676 which was > 0.05 therefore, the relationship was non-significant (Field, 2013).

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

In this chapter, a discussion of the results presented in the previous chapter (Chapter 4) was provided. This discussion included the sample characteristics (demographics) of the respondents in the study and the results in relation to the stated hypotheses in Chapter 2 of the literature reviewed.

5.2 Demographics of the respondents

Respondents' Gender

The majority of the respondents in this study were female. These respondents constituted 66.7% of the total responses in the online survey. According to Stats SA (2021) approximately 51.1% of South Africa's total population is made up of females. However, according to Mastercard (2021) females constitute the minority of SME Owner-Managers with only 19.4% of owners being female in South Africa, whilst males constitute the majority of SME Owner-Managers. Therefore, based on these findings it can be assumed that there is an increase in female entrepreneurship in South Africa.

Respondents' Age Group

The majority of the respondents in this study were 56 years and older. These respondents constituted 35.3% of the total responses in the online survey. According to SEDA (2021) the majority of owners in South Africa are between the ages of 45 and 49 years of age. Therefore, these findings were not far off from the national findings.

Respondents' Race

The majority of the respondents in this study were Black African. These respondents constituted 84.3% of the total responses in the online survey. The South African population constitutes of approximately 60.6 million people (Stats SA, 2022), and the majority race group in the country's population is 49.1% Black African (Galal, 2022). Furthermore, the majority of owners in South Africa were Black African constituting 73.6% of owners nationally (SEDA, 2021). Therefore, these findings concurred with the national findings.

Respondents' Highest Level of Education

The majority of the respondents in this study were educated at a Master's degree level. These respondents constituted 27.5% of the total responses in the online survey. Yusuf (1995);

Wijewardena and Cooray (1996) suggest that the academic background of an entrepreneur is one of the key attributes of an entrepreneur, and plays a critical role in the success of a firm. According to SEDA (2021) 31.9% of owners in South Africa studied until secondary education, with only 22% having studied in tertiary education. Therefore, these findings indicated there is an increase in entrepreneurs who have studied in tertiary education.

Respondents' Field of Study

The majority of the respondents in this study specialised in 'Other' fields of study. These respondents constituted 49% of the total responses in the online survey.

Respondents' Form of Ownership

The majority of the respondents in this study own a Private Company (Pty Ltd.). These respondents constituted 51% of the total responses in the online survey. According to Western Cape Government (n.d.) the most of popular form of ownership for South African entrepreneurs is a Private Company (Pty Ltd.) therefore, these findings concur with the national trend.

Respondents' Industry

The majority of the respondents in this study have operate in 'Other' industries. These respondents constituted 35.3% of the total responses in the online survey. According to SEDA (2021) the majority of SMEs in the Gauteng Province operate in the trade and accommodation sector, with more than 260 000 SMEs operating in this sector. Therefore, these findings could potentially indicate an increase of SME Owner-Managers in various industries and sectors in the Gauteng Province as opposed to the trade and accommodation sector solely.

Respondents' Age of the Business (Years)

The majority of the respondents in this study have been operating their SMEs for 3.5 and more. These respondents constituted 74.5% of the total responses in the online survey. According to SEDA (2021) the majority of enterprises in South Africa are between the ages of 5 to 10 years. 22.2% of enterprises are between the ages of 5 to 10 years (SEDA, 2021). Interestingly, GEM (2022) indicated that the EBO rate in South Africa stood at 5.2% which means that South Africa was ranked 29th out of 47 countries

Respondents' Size of the Business (Employees)

The majority of the respondents in this study have between 1 and 10 employees. These respondents constituted 76.5% of the total responses in the online survey.

Respondents' Location of the Business (City)

The majority of the respondents in this study have SMEs operating within the City of Johannesburg. These respondents constituted 74.5% of the total responses in the online survey. The majority of owners operate within the Gauteng Province, with 38% of enterprise owners operating within the Gauteng Province (SEDA, 2021).

5.3 Research findings in relation to the hypotheses

5.3.1 Research Question 1

To what extent does crises such as the COVID-19 pandemic and load shedding, impact on SME resilience in the Gauteng Province?

Based on the results presented in the previous chapter, the findings of this study indicate that the COVID-19 pandemic as well as load shedding had a significant impact on SME resilience in the Gauteng Province. In addition to that, these findings concur with the suggestion that qualitative indicators should not be ignored when conceptualising crisis management since they might have a negative impact on a firm (Cvilikas et al., 2015).

Pearson and Mitroff (1993) and Fink (1986) indicate in the crisis process model that the process of recovery from any damage(s) caused to a firm during a crisis is largely dependent on a firm's management of a crisis during its occurrence. It can be said that the SME management of crisis during its occurrence was not well-managed considering that the stated second stated hypothesis in this study was proven to be true.

On the one hand, it is important to note the detection stage of the crisis process model. Pearson and Mitroff (1993) and Fink (1986) state that the early-detection of a crisis offers a firm sufficient time to prepare by gathering its resources to manage the potential crisis. In the case of the COVID-19 pandemic, no one foresaw nor anticipated that the flu-like virus would wreak the amount of havoc that it did, nor did anyone anticipate that such a virus would emerge in the first place. With that said, these findings indicate that SMEs in the Gauteng Province were not prepared for the severe impact that would be fold as a result of the COVID-19 lockdown.

The coronavirus was first detected in December 2019 in Wuhan, China (Centers for Disease Control and Prevention, 2021), and the first case of the coronavirus in South Africa was first detected on the 5th of March 2020 in the KwaZulu-Natal Province (NICD, 2020). This left SMEs in the country and around the world with a limited amount of time to gather resources to manage the impact of the COVID-19 lockdown.

On the other hand, the concept of load shedding is not a new phenomenon to the South African public. The first case of load shedding in South Africa occurred back in October 2007 (Eskom, n.d.) therefore, South Africans have experienced the issue of load shedding for more than 15 years. It can be assumed that the SMEs in Gauteng that have been operating for 3.5 years and longer were more familiar with the negative impact of load shedding on their SMEs. It can also be assumed that those SMEs were in a better position to develop strategies to manage their businesses during load shedding. However, it is also important to note that the issue of load shedding became more prevalent in the country since the second quarter of 2022, marking the worst year of load shedding in South Africa since its inception back in late 2007 (Francke, 2022).

Furthermore, it is important to consider that even though those SMEs could have potentially devised a strategy to manage or mitigate the impact of load shedding prior to the COVID-19 pandemic, the discovery of the novel coronavirus back in late 2019 led to the regression of many economies around the world. Considering that South Africa is a developing economy, these findings concur with the statement that the COVID-19 pandemic exacerbated the existing socio-economic inequities, and has further impacted negatively on the growth and development of SMEs across Sub-Saharan Africa (Ganum & Thakoor, 2021; Makumi, Kimotho, & Sissay, 2021). Lastly, these findings also concur with Mambula (2002) who states that the absence of proper electricity supply, water supply, roads, and telecommunications stunt the growth of SMEs therefore, resulting in their untimely demise.

5.3.2 Hypothesis 1 (H1)

SME firm characteristics in response to crises have an impact on SME Resilience

This stated hypothesis was not supported by the results presented in Chapter 4. The findings indicated that the impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province was not statistically significant. The relationship between the two variables was positive however, the two variables were not statistically significant. As a result, this stated hypothesis was rejected.

McMahon (2001) indicated that firm size has a significant effect on an SME's success. Considering that the COVID-19 pandemic resulted in massive job losses in firms around the world, it was assumed that the impact of SME firm characteristics in response to crises was significant on SME resilience. In addition to that, the COVID-19 pandemic led to the decline of many industries (with exception to the healthcare industry) around the world as a result of the supply chain disruptions that occurred. One of the major setbacks of the COVID-19 lockdown was the unprecedented supply chain disruptions that occurred as a result of increased demand and supply issues (del Rio-Chanona, Mealy, Pichler, Lafond, & Farmer, 2020).

Levratto et al. (2010) state that human capital, the resources of a firm as well as the market characteristics of a firm are key factors in the growth of SMEs. As a result, it was assumed that since the COVID-19 pandemic impacted the human capital, resources and market characteristics of a firm, this would have a significant impact on the resilience of SMEs. Kraus et al. (2020) stated that the duration of a crisis or crises may differ and could lead to a depletion of financial resources within a firm and, could potentially impact negatively on the resilience of SMEs due to limited financial resources which could impact on the firm's ability to attract and retain skilled human capital.

On the one hand, it can be argued that if both crises (the COVID-19 pandemic and the current energy crisis in South Africa) were present for a longer duration, this could have had a significant impact on the SME firm characteristics in response to crises on SME resilience. On the other hand, these findings could be attributed to Chesbrough (2020); Morgan et al. (2020); Pedersen et al. (2020) who claim that business model innovation and pivoting industries could be a solution during the COVID-19 crisis.

5.3.3 Hypothesis 2 (H2)

SME firm strategy in response to crises has an impact on SME Resilience

This stated hypothesis was supported by the results presented in Chapter 4, which indicated that the impact of SME firm strategy in response to crises on SME resilience in the Gauteng Province was statistically significant. The relationship between the two variables was positive and the two variables were statistically significant therefore, this stated hypothesis was accepted. These findings concur with existing literature that suggests that there is a lack of strategic planning within most SMEs (Mintzberg et al., 2003; Cagliano et al., 1998; Barnes et al., 1999).

On the hand, it is important to note that the circumstances surrounding the strategic planning of these SMEs were unusual as a result of the COVID-19 pandemic that resulted in the demise of many SMEs around the world. These findings concur with Sullivan et al. (2011) who found that the impact of extreme events has a negative bearing on SMEs due to their limited resources. In addition to that, Runyan (2006); Herbane (2013); Hong and Jeong (2006) found that small businesses are severely impacted by crisis events due to their limited resources, networks and market positions.

Kraus et al. (2020) state that the COVID-19 lockdown restrictions had a negative impact on the productivity of SMEs around the globe. Viljoen and Struweg (2016) found that SMEs in the City of Johannesburg viewed load shedding as the biggest macroeconomic threat to the survival of their businesses. Lastly, Porter (1991) found that the success of a firm is determined by the industry that a firm operates within as well as its relative position. Since the COVID-19 lockdown impacted negatively on the productivity of SMEs across various industries and sectors around the world, it can be said that the external environment was not conducive for productivity and growth. Ipinnaye et al. (2017) suggest that the macroeconomic environment plays a critical role in firm growth.

On the other, it can be said that the SMEs were not sufficiently aware of their macroenvironment and its key drivers. Porter (1991) suggests a five forces of strategy framework for analysing a firm's industry as well as its competitors. This framework can be used to analyse the key drivers in the macroeconomic environment (Porter, 1991). Witte (1981) defines a crisis as an overall threat to a firm. Acquaah et al. (2011) state that organisational resilience is the firm's ability to persevere in the midst of challenges in both the internal and external environment. Therefore, it can be said that

Lastly, Fink (2013) defines crisis management the strategies which an organisation employs to deal with unforeseen circumstances or events that pose a significant threat to the organisation. These findings suggest that the SMEs did not employ effective strategies to manage the threat of crises on their SMEs. In addition to that, Hermann (1963) defines a crisis as a sudden and unexpected event that poses a risk to a firm therefore, requiring urgent intervention from a firm's management. These findings suggest that the SMEs did not act in a swift and responsive manner. Cameron and Dutton (2003) claim that organisational resilience is centred around a firm's response to disruption.

These findings concur with Pearson and Claire (1998); Drummond (2004) who suggest that during a crisis, firms should have effective responses in place to ensure the survival and growth of a firm. Furthermore, these findings concur with Burnard et al. (2018) who state that organisational resilience can be attributed to a firm's capability in responding adequately to disruptive events.

With that said however, it is important to bear in mind that small firms are less resourced as opposed to large firms therefore, the limitation of resources could potentially hinder the implementation of strategies devised by small firms. Alves et al. (2020) state that small firms are more vulnerable to crises as a result of limited resources, weaker market presence amongst other reasons. Islam et al. (2011) claim that a firm's responsiveness is largely determined by its resources, strategies, industry, and location. Lastly, Ates and Bititci (2011); Pal et al. (2014) found that having access to resources plays a crucial role in the resilience of an SME.

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

In conclusion, the findings that emerged from this study indicated that the impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province was statistically non-significant however, the impact of SME firm strategy in response to crises on SME resilience in the Gauteng Province was statistically significant.

The findings in relation to the non-significant impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province resulted in the following conclusions;

There was a positive relationship between SME firm characteristics in response to crises and SME resilience. This confirmed that there was a relationship between the two variables however, the magnitude between the two variables was low which ultimately led to the non-significance of the stated hypothesis. There was a positive relationship between SME firm strategy in response to crises on SME resilience. This confirmed that there was a relationship between the two variables and, the magnitude between the two variables was high which meant that the stated hypothesis was significant.

6.2 Implications and recommendations

The implications of this study were the following;

This study sought to examine the impact of SME firm characteristics in response to crises and SME firm strategy in response to crises on SME resilience in the Gauteng Province. The magnitude of the impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province was low however, the magnitude of the impact of SME firm strategy in response to crises on SME resilience in the Gauteng Province was high. This study will provide insight to academic scholars in the fields of entrepreneurship and management (specifically, strategic management), current and future SME Owner-Managers (particularly in developing economies), and policy-makers in government institutions.

6.3 Limitations of the study

The limitations of conducting this study were as follows;

4. The number of total responses received via the online survey. The number of total responses received during the data collection period was relatively low. This could be

attributed to numerous factors including but not limited to; apathy amongst eligible respondents, a lack of incentives, time constraints just to name a few.

5. Adopting an anonymity approach for this study. Adopting an anonymity approach for collecting the primary data might have put this study at a disadvantage in terms of collecting more primary data whilst maintaining non-bias in the study.
6. The research instrument (i.e., the online questionnaire) had some flaws. The flaw relevant to this questionnaire resulted in the factors containing more than 3 items. This flaw can be attributed to the fact that this study measured the impact of SME firm characteristics and SME firm strategy in response to the COVID-19 lockdown and the current energy crisis in South Africa respectively (See **Appendix B**).

6.4 Future research

It is suggested that future research in the entrepreneurship domain should inquire into the following;

1. Entrepreneurial intention in developing economies during times crisis. It is suggested that the focus of such future research should focus on the post-pandemic era.
2. The influence of an entrepreneur's characteristics during times of turbulence. It is suggested that the focus of such future research should be on the entrepreneur's academic background and prior work experience.

6.5 Conclusion

The purpose of this study was to gain empirical insight into the impact of SME firm characteristics and SME firm strategy in response to crises on SME resilience in the Gauteng Province. A lot has happened in the Gauteng Province and South Africa at large in the past three years as a result of the COVID-19 pandemic therefore, it was important to generate new knowledge in this respect. The results emanating from this study contribute new empirical knowledge in respect of SME firm characteristics in response to crises and SME firm strategy in response to crises on SME resilience. Furthermore, the findings emanating from this study contribute new empirical knowledge in the fields of entrepreneurship and strategic management. In conclusion, this study found that impact of SME firm characteristics in response to crises on SME resilience in the Gauteng Province was non-significant however, the impact of SME firm strategy in response to crises on SME resilience in the Gauteng Province was significant.

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APPENDICES

APPENDIX A: CONSISTENCY MATRIX

Main Objective: To examine the impact of SME firm characteristics in response to crises and SME firm strategy in response to crises on SME resilience in the Gauteng Province

Research Objectives	Literature Review	Research Questions	Data Required	Data Collection	Analysis Method
RO 1: To examine the impact of the SME firm characteristics in response to crises on SME resilience in the Gauteng Province	Storey (1994); Cooper, Gimeno-Gascon, & Woo (1994); Indarti & Langenberg (2004)	**RQ 1:** *To what extent does crises such as the COVID-19 pandemic and load shedding, impact on the performance of SMEs in the Gauteng Province?*	Section C Section E	Online survey via Qualtrics	Descriptive Analysis Correlation Analysis Multiple Linear Regression
RO 2: To examine the impact of the SME firm strategy in response to crises on SME resilience in the Gauteng Province	Storey (1994) Porter (1991)	**RQ 1:** *To what extent does crises such as the COVID-19 pandemic and load shedding, impact on the performance of SMEs in the Gauteng Province?*	Section D Section E	Online survey via Qualtrics	Descriptive Analysis Correlation Analysis Multiple Linear Regression

APPENDIX B: ACTUAL INSTRUMENT ADMINISTERED

MM-ENVC 2022 OPEN QUESTIONNAIRE - ZITHU

Survey Flow

Block: Default Question Block (1 Question)

Standard: Section A: Demographical Information (6 Questions)

Standard: Section B: Business Characteristics (6 Questions)

Standard: Section C: SME Firm Characteristics in Response to Crises (4 Questions)

Standard: Section D: SME Firm Strategy in Response to Crises (4 Questions)

Standard: Section E: SME Resilience (4 Questions)

Page Break

Start of Block: Default Question Block

Q1 Dear Participant,

Hope you are doing well.

My name is Zithulele Ndlovu, and I am a Master of Management in Entrepreneurship and New Venture Creation (MM-ENVC) Candidate at the Wits Business School (WBS). As a part of the requirements for the degree, I am expected to conduct research that will contribute further to existing knowledge in the field of Entrepreneurship. My research is titled "**Characteristics and Strategy of SMEs in Gauteng and their Resilience in Response to Crises**." The main research objective of this study is to examine the impact of SME firm characteristics and SME firm strategy in response to crises (i.e., the COVID-19 lockdown and the current energy crisis in South Africa) on SME resilience in the Gauteng Province.

I humbly request that you share your experiences as an SME Owner/Manager operating within the Gauteng Province in this survey. This survey consists of five sections and should take approximately 10 – 15 minutes to complete. This survey will be available until the 11th of December 2022.

Your participation in this survey will be highly appreciated.

Yours sincerely,

Zithulele Ndlovu

PARTICIPANT INFORMED CONSENT INFORMATION

This survey will abide by the following ethical considerations;

ANONYMITY. The identities of the participants will be kept anonymous.

CONFIDENTIALITY. The data collected in this survey will be kept strictly confidential.

DATA PROTECTION. The data collected in this survey will be kept on a highly-secured/password protected device that will be accessed by myself-only (the researcher).

LIBERTY/FREE WILL. No one will be bound or forced to partake in this survey. Individuals will have the right to exit the survey if they want to, and that won't be held against

anyone.

By clicking “I Accept” you agree to have read and fully understood the above participant informed consent information, and therefore give consent to participate in this survey.

- ○ I Accept (1)
- ○ I Do Not Accept (2)

Skip To: End of Survey If Q1 != 1

End of Block: Default Question Block

Start of Block: Section A: Demographical Information

Q18 **Section A: Demographical Information**

Q2 **Gender**

- ○ Male (1)
- ○ Female (2)

Q3 **Age Group**

- ○ 18 - 25 (1)
- ○ 26 - 35 (2)
- ○ 36 - 45 (3)
- ○ 46 - 55 (4)
- ○ 56 + (5)

Q4 **Race**

- ○ Black African (1)
- ○ White (2)
- ○ Coloured (3)
- ○ Indian (4)
- ○ Asian (5)

Q5 **Highest Level of Education**

- ○ Matric (Grade 12) (1)
- ○ Higher Certificate (2)
- ○ Diploma (3)
- ○ Bachelors (4)
- ○ Honours/Honours Equivalent (5)
- ○ Masters (6)
- ○ Doctorate (7)
- ○ Other (8)

Q6 **Field of Study**

- ○ Accounting/Finance (1)
- ○ Law (2)
- ○ Medicine (3)
- ○ Engineering (4)
- ○ Actuarial Science (5)
- ○ Business Administration/Management (6)
- ○ Other (7)

End of Block: Section A: Demographical Information

Start of Block: Section B: Business Characteristics

Q19 **Section B: Business Characteristics**

Q7 **Form of Ownership**

- ○ Private Company (Pty Ltd.) (1)
- ○ Public Company (2)
- ○ Close Corporation (3)
- ○ Sole Proprietorship (4)
- ○ Partnership (5)
- ○ Non-profit Company (6)

Q8 **Industry**

- ○ Financial Services (1)
- ○ ICT (2)
- ○ Business Consulting (3)
- ○ Wholesale & Retail (4)
- ○ Education (5)
- ○ Health (6)
- ○ Manufacturing (7)
- ○ Media & Entertainment (8)
- ○ Other (9)

Q9 **Age of the Business (Years)**

- ○ 0 - 1 (1)
- ○ 1.5 - 3 (2)
- ○ 3.5 + (3)

Q10 **Size of the Business (Employees)**

- ○ 1 - 10 (1)
- ○ 11 - 50 (2)
- ○ 51 - 250 (3)

Q11 **Location of the Business (City)**

- ○ Johannesburg (1)
- ○ Tshwane (2)
- ○ Ekurhuleni (3)

End of Block: Section B: Business Characteristics

Start of Block: Section C: SME Firm Characteristics in Response to Crises

Q20 **Section C: SME Firm Characteristics in Response to Crises**

Please indicate your level of agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree)

Q12 **The COVID-19 Lockdown**

	1. Strongly Disagree (1)	**2. Disagree** (2)	**3. Somewhat Disagree** (3)	**4. Neither Agree Nor Disagree** (4)	**5. Somewhat Agree** (5)	**6. Agree** (6)	**7. Strongly Agree** (7)
The firm was looking to hire more employees during the COVID-19 lockdown (1)	○	○	○	○	○	○	○
The firm was able to increase the number of employees during the COVID-19 lockdown (2)	○	○	○	○	○	○	○
The firm reduced employee salaries during the COVID-19 lockdown (3)	○	○	○	○	○	○	○

The firm laid-off employees during the COVID-19 lockdown (4)	○	○	○	○	○	○	○
The firm was in a better financial position during the COVID-19 lockdown (5)	○	○	○	○	○	○	○
The firm had increased its customer base during the COVID-19 lockdown (6)	○	○	○	○	○	○	○
The firm was looking to pivot industries during the COVID-19 lockdown (7)	○	○	○	○	○	○	○

Page Break

Q25 **Please indicate your level of agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree)**

Q13 **The Current Energy Crisis**

	1. Strongly Disagree (1)	**2. Disagree** (2)	**3. Somewhat Disagree** (3)	**4. Neither Agree Nor Disagree** (4)	**5. Somewhat Agree** (5)	**6. Agree** (6)	**7. Strongly Agree** (7)
The firm is looking to hire more employees during the current energy crisis (1)	○	○	○	○	○	○	○
The firm is able to increase the number of employees during the current energy crisis (2)	○	○	○	○	○	○	○
The firm has reduced employee salaries during the current energy crisis (3)	○	○	○	○	○	○	○

The firm has laid-off employees during the current energy crisis (4)	○	○	○	○	○	○	○
The firm is in a better financial position during the current energy crisis (5)	○	○	○	○	○	○	○
The firm has increased its customer base during the current energy crisis (6)	○	○	○	○	○	○	○
The firm is looking to pivot industries during the current energy crisis (7)	○	○	○	○	○	○	○

End of Block: Section C: SME Firm Characteristics in Response to Crises

Start of Block: Section D: SME Firm Strategy in Response to Crises

Q21 **Section D: SME Firm Strategy in Response to Crises**

Please indicate your level of agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree)

Q14 **The COVID-19 Lockdown**

	1. Strongly Disagree (1)	**2. Disagree** (2)	**3. Somewhat Disagree** (3)	**4. Neither Agree Nor Disagree** (4)	**5. Somewhat Agree** (5)	**6. Agree** (6)	**7. Strongly Agree** (7)
The firm had strategic measures in place to deal with the COVID-19 lockdown (1)	○	○	○	○	○	○	○
The firm was able to fulfil its customer's needs during the COVID-19 lockdown (2)	○	○	○	○	○	○	○
The firm saw an increase in sales growth during the COVID-19 lockdown (3)	○	○	○	○	○	○	○
The firm was able to manage its costs effectively during the COVID-19 lockdown (4)	○	○	○	○	○	○	○

The firm had been able to invest in research and development (R&D) during the COVID-19 lockdown (5)	○	○	○	○	○	○	○
The firm was adequately prepared to deal with the disruptions caused by the COVID-19 lockdown (6)	○	○	○	○	○	○	○
The firm's operations were not affected during the COVID-19 lockdown (7)	○	○	○	○	○	○	○

Page Break

Q22 **Please indicate your level of agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree)**

Q15 **The Current Energy Crisis**

	1. Strongly Disagree (1)	**2. Disagree** (2)	**3. Somewhat Disagree** (3)	**4. Neither Agree Nor Disagree** (4)	**5. Somewhat Agree** (5)	**6. Agree** (6)	**7. Strongly Agree** (7)
The firm has strategic measures in place to deal with the current energy crisis (1)	○	○	○	○	○	○	○
The firm is able to fulfil its customer's needs during the current energy crisis (2)	○	○	○	○	○	○	○
The firm has seen an increase in sales growth during the current energy crisis (3)	○	○	○	○	○	○	○

The firm has been able to invest in research and development (R&D) during the current energy crisis (4)	○	○	○	○	○	○	○
The firm is adequately prepared to deal with the disruptions caused by the current energy crisis (5)	○	○	○	○	○	○	○
The firm's operations have not been affected during the current energy crisis (6)	○	○	○	○	○	○	○
The firm has sufficient backup power to use during the current energy crisis (7)	○	○	○	○	○	○	○

End of Block: Section D: SME Firm Strategy in Response to Crises

Start of Block: Section E: SME Resilience

Q23 **Section E: SME Resilience**

Please indicate your level of agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree)

Q16 **The COVID-19 Lockdown**

	1. Strongly Disagree (1)	**2. Disagree** (2)	**3. Somewhat Disagree** (3)	**4. Neither Agree Nor Disagree** (4)	**5. Somewhat Agree** (5)	**6. Agree** (6)	**7. Strongly Agree** (7)
The firm had received support from government during the COVID-19 lockdown (1)	○	○	○	○	○	○	○
The firm had received support from the private sector during the COVID-19 lockdown (2)	○	○	○	○	○	○	○
The firm is recovering from the impact of the COVID-19 lockdown (3)	○	○	○	○	○	○	○

The firm is coping post the COVID-19 lockdown (4)	○	○	○	○	○	○	○
The firm was able to adapt to change during the COVID-19 lockdown (5)	○	○	○	○	○	○	○
The firm was able to deal with the supply chain disruptions during the COVID-19 lockdown (6)	○	○	○	○	○	○	○
The firm could make tough decisions quickly during the COVID-19 lockdown (7)	○	○	○	○	○	○	○

The firm was able to shift from business-as-usual to respond to the COVID-19 lockdown (8)	○	○	○	○	○	○	○
The firm had sufficient resources during the COVID-19 lockdown (9)	○	○	○	○	○	○	○
The firm will continue to survive post the COVID-19 lockdown (10)	○	○	○	○	○	○	○

Page Break

Q24 **Please indicate your level of agreement with the following statements from 1 (Strongly disagree) to 7 (Strongly agree)**

Q17 **The Current Energy Crisis**

	1. Strongly Disagree (1)	**2. Disagree** (2)	**3. Somewhat Disagree** (3)	**4. Neither Agree Nor Disagree** (4)	**5. Somewhat Agree** (5)	**6. Agree** (6)	**7. Strongly Agree** (7)
The firm has received support from government during the current energy crisis (1)	○	○	○	○	○	○	○
The firm has received support from the private sector during the current energy crisis (2)	○	○	○	○	○	○	○
The firm will recover from the impact of the current energy crisis (3)	○	○	○	○	○	○	○

The firm is coping in the current energy crisis (4)	○	○	○	○	○	○	○
The firm is able to adapt to change during the current energy crisis (5)	○	○	○	○	○	○	○
The firm is able to deal with the disruptions caused by the current energy crisis (6)	○	○	○	○	○	○	○
The firm can make tough decisions quickly during the current energy crisis (7)	○	○	○	○	○	○	○

The firm is able to shift from business-as-usual to respond to the current energy crisis (8)	○	○	○	○	○	○	○
The firm has sufficient resources during the current energy crisis (9)	○	○	○	○	○	○	○
The firm will continue to survive post the current energy crisis (10)	○	○	○	○	○	○	○

End of Block: Section E: SME Resilience