

**SUPPORTING THE SMME SECTOR FOR SUSTAINABLE GROWTH AND
DEVELOPMENT- IN THE NORTHERN CAPE PROVINCE**

A Dissertation

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by

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ABSTRACT

Small and Medium Enterprises are critical for creating employment and alleviating poverty and inequality by driving inclusive, sustainable socio-economic development. Therefore, as a vital sector, SMEs can improve the regional Gross Domestic Product growth and development by adding value to the complete value chain processes, from the production of the resources to the processing and eventually reaching the different markets. Hence Small and Medium Enterprises should play a pivotal role in revitalising Northern Cape Province's economic growth and development. Thus, dynamic entrepreneurs are required to drive these processes effectively. Unfortunately, however, in South Africa and Northern Cape Province, the failure rate of SMEs is very high.

This paper aims to identify the determinants that affect SME growth and development in the Northern Cape Province. Five determinants identified for this study were human capital, market capability, infrastructure and technology and entrepreneurial orientation. Cross-sectional survey data were collected via email among 128 SME owners/managers in the Northern Cape Province. The quantitative methodologies approach was built on the Partial Least Squares Structural Equation Model to analyse the model's reliability, and validity, by analysing the measurement model and hypothesis testing predictiveness by analysing the structural model utilising Smart PLS vers3 software.

The empirical research results indicated the direct effects of a statistically positive effect of human capital, market capability, infrastructure and technology, and entrepreneurial orientation on SME growth and development. However, the direct effects between infrastructure and technology and SME growth and development are significantly negative. The indirect effects indicated that market capability as a mediator between entrepreneurial orientation and SME growth and development is positively significant. However, infrastructure and technology are negatively significant. The moderation effect of human capital was found to be positively significant. If human capital were not introduced as a moderator, the relationship between entrepreneurial orientation and SME growth and development would be insignificant, indicating the importance of human capital for SME growth and development. Human capital as a moderator would contribute to the Resource-Based View and assist in policy development to improve SME growth and development.

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LIST OF ABBREVIATIONS

DEDaT	Department of Economic Development and Tourism
FPL	Food Poverty Line
GDP	Gross Domestic Product
HDI	Human Development Index
ICT	Information Communication and Technology
MSMED	Micro, Small, and Medium Enterprises Development Act
NDP	National Development Plan
NSB	National Small Business Act
PLS-SEM	Partial Least Squares and Structural Equation Modelling
RBV	Resource-Based View
SDG	Sustainable Developmental Goals
SEM	Structural Equation Model
SME	Small Medium Enterprises
SPSS	Statistical Package for Social Sciences
UNDP	United Nations Development Programme

CHAPTER 1: INTRODUCTION

1.0 Introduction

The Northern Cape Province and South Africa are challenged with substantial tasks to address high poverty levels, unemployment, and inequality and promote sustainable Small Medium Enterprises (SME) growth and development. South Africa enacted the National Development Plan (NDP-2030) in 2012 by adopting vision 2030, which states, "by 2030, we will be living in a country that we have changed." The plan envisions eradicating poverty, lowering disparities, expanding employment, and enhancing society's well-being. The NDP defines "*a developmental state as one that effects rapid and sustainable change in a country's economic and social conditions through active, intensive, and effective intervention in the structural causes of economic or social underdevelopment*" (National Planning Commission (NPC), 2012). The NDP is a long-term strategy that specifies the 2030 vision and the particular development priorities for the three domains of government, namely Local Government, Provincial Government and National Government. The NDP is aligned with the worldwide development plans, such as the 17 Sustainable Developmental Goals (SDG) approved in 2015 by 193 Member States of the United Nations and the African Union agenda 2063 (African Union, 2063).

In 2014 Deputy President Cyril Ramaphosa emphasised that "*the growth of our economy will be sustained by small businesses, as in the case of many countries*" (South Africa, 2014). Industrialised and developing countries confronted unemployment, a sustainable environment, socio-economic growth, and development challenges. A vivid and advanced SME sector performs an essential role in developing countries concerning the citizens' well-being and sustainable socio-economic growth and development. SMEs make up nearly 99% of all businesses accounting for 70% of employment and are the highest sources of employment in most developed and developing countries. SMEs contribute significantly to value creation, producing between 50-60% of value-addition to goods and services produced annually (OECD, 2017). Industrialised countries see SMEs as the primary source of jobs, manufacturing growth, and new ideas that help grow and develop the economy.

Contrary, SMEs fall short of these existing opportunities in developing countries and the Northern Cape Province. South Africa has the most considerable SME failure rate of 75%, equating to the rest of the world (Olawale & Garwe, 2010), and SMEs contributes approximately one-third of Gross Domestic Product (GDP). Furthermore, SMEs in South Africa account for only 55% of the jobs created, whereas Indonesia, India, and China account for 99% (Lekhanya, 2015). The Northern Cape Province has a high SME failure rate.

The government recognised that SMEs' contribution to Northern Cape Province and the South African economy is critical; hence a new Ministry of Small Business Development was introduced in 2014. The study is intended to elucidate the main variables and barriers to SME growth and development in the Northern Cape Province. The chapter was organised as follows: the study's context, the problem description, the research objectives, the research questions, and the research organisation.

1.1 Background of the Study

The Northern Cape Province area is roughly 372 889 km², about a third of South Africa's landmass (Statistics South Africa, 2012). Although the Northern Cape Province is vast, it is sparsely populated with the smallest number of inhabitants, estimated at 1 263 875 inhabitants, or 2.2% of South Africa's overall population and a population density of 3.3 people per square kilometre (Statistics South Africa, 2019a). The Northern Cape Province comprises of 26 municipalities and five districts: ZF Mgcawu, Pixley ka Seme, Namakwa, Frances Baard and John Taolo Gaetsewe. In addition, the Northern Cape Province is surrounded by two nations, Namibia and Botswana. Furthermore, it shares a border with four provinces: Eastern Cape, Free State, North West, and Western Cape. As a result, the Northern Cape Province faces several challenges, including a high poverty rate, high unemployment, and inequality.

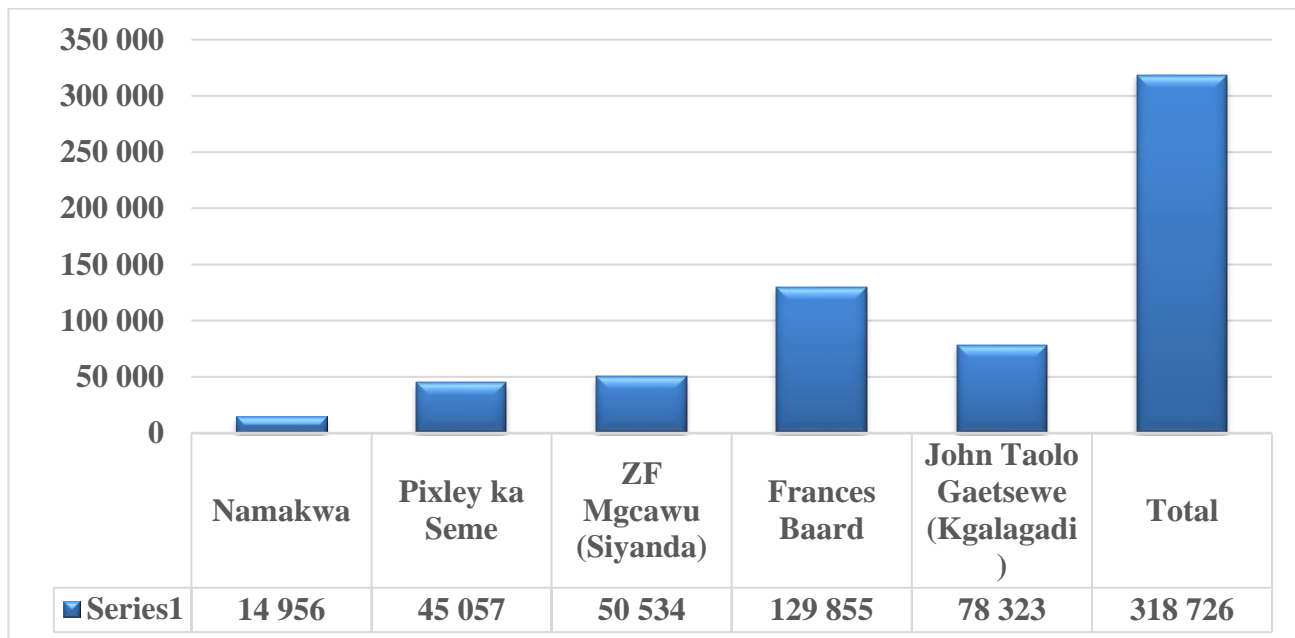


Figure 1: Northern Cape Province - People living below Food Poverty Line-2016

Source: hisMarkit,2019

Figure1 indicates that in 2016, 25.2% (318 726) of the province's population lived below the food poverty line (FPL). Most people below FPL reside in Frances Baard District (129 855 and/or 40.7%), followed by John Taolo Gaetsewe 78 323 (24.6%). In comparison, Namakwa has the fewest residents under the FPL, at 14 956 (4.7%) people.

In the Northern Cape Province, males' life expectancy was 51.9 years between 2001 and 2006. However, it is anticipated to increase to 59.1 years between 2016 and 2021, a projected increase of 7.2 years. Whereas females reached 57.2 years between 2001 and 2006, they will reach 66 years between 2016 and 2021, increasing by 8.8 years. In addition, the Northern Cape Province forecasted an optimistic net migration of 13 059 people between 2016 and 2021 (Statistics South Africa, 2019a).

The area between a Lorenz Curve and a 45% straight line called equal distribution equates to the Gini coefficient, where 0 represents a perfect distribution indicating the most significant income inequality, while one represents an unequal distribution (Statistics South Africa, 2019b). The Gini coefficient decreases if the Lorenz Curve approaches the equal distribution line. The Gini coefficient of 0.63 in 2015 demonstrates that South Africa has the highest inequality rate compared to the world (see Figure 2). Additionally, the World Bank (2019) synopsis highlighted that the average Gini coefficient of the Northern Cape Province is 0.61.

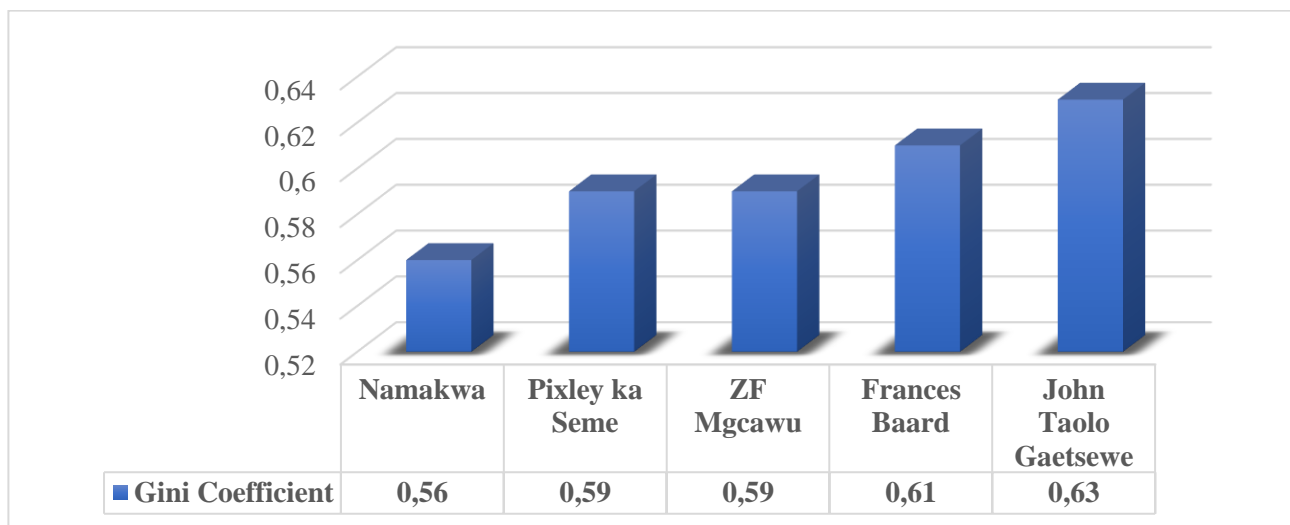


Figure 2: Northern Cape Province-Gini Coefficient per District in 2016

Source: *ihs Markit, 2019*

The Northern Cape Province has some of the highest Gini Coefficients compared to other countries. The enormous imbalance results from the Northern Cape Province's twin economy, excluding the impoverished from contributing to the Northern Cape Province's socio-economic development and growth, directly resulting from the high unemployment, inequality and poverty rates.

The Human Development Index (HDI) quantifies a country's and region's development, allowing one to determine whether a resident's well-being is improving in that region. HDI values are typically between 0 and 1, where a value of less than 0.5 implies underdevelopment, and greater than 0.5 but less than 0.8 indicates moderate development. In comparison, an HDI value of more than 0.8 indicates a high level of development. For example, the Northern Cape Province's average HDI is 0.65, implying that the province is moderately developed. The average HDI for the districts is depicted in Figure 3.

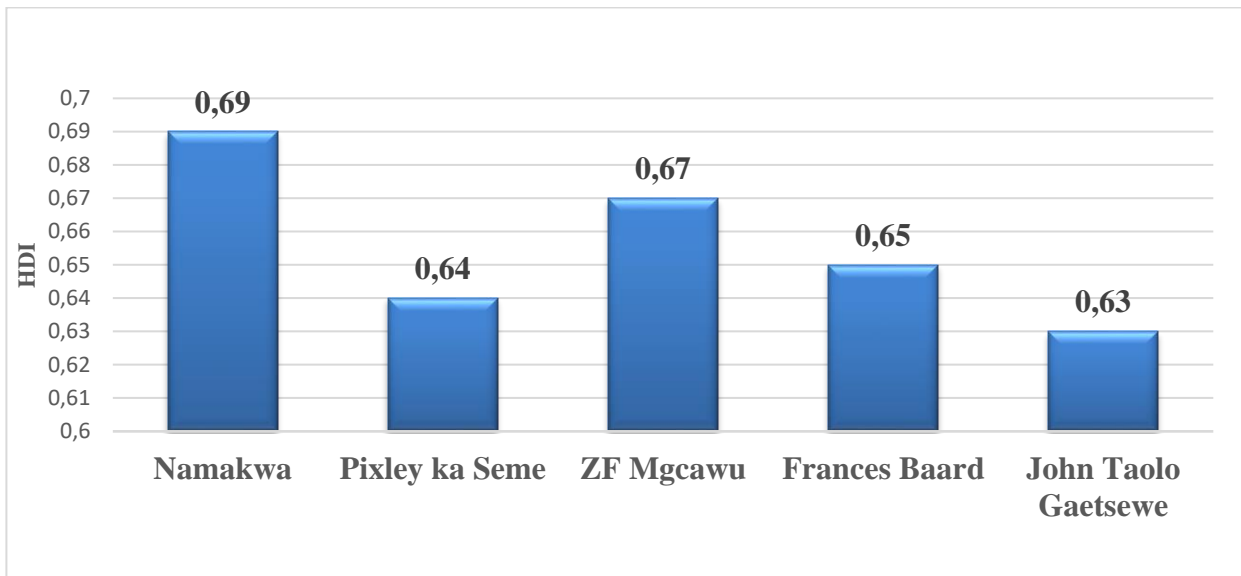


Figure 4: Northern Cape Province - Human Development Index in 2016

Source: *ihs Markit, 2019*

From Figure 2, it can be noted that John Taolo Gaetsewe and Pixley ka Seme have the least HDI values, whilst Namakwa district has the highest HDI, implying that it is the district with the most significant development of the other four regions.

Micro-economic solidity is vital for South Africa because it enables the provinces to execute a budget stimulating the micro-economic ecosystem. The economy's inherent risks in South Africa will directly influence the Northern Cape Province GDP. In 2017, the Northern Cape Province's GDP increased to 2.84% (see Figure 4). However, the provincial GDP decreased by 2.34% between 2017 and 2018.

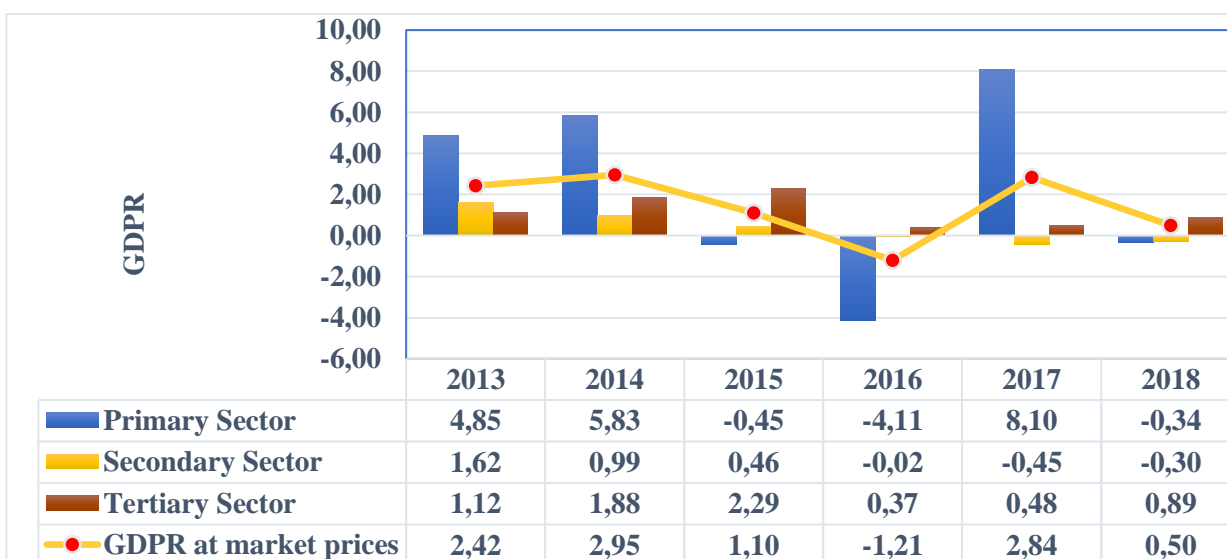


Figure 3: Northern Cape Province – Gross Domestic Product

Source: *Statistics South Africa, (2019)*

Moreover, the primary sector contributes the most to the Northern Cape GDP, approximately 2.31%. On the other hand, the tertiary sector contributes around 1.17% to the Northern Cape GDP, whereas the secondary sector's contribution to GDP is 0.38%. Consequently, the primary mining and agriculture sector remains the most substantial contributor to the provincial GDP. However, the primary sector recorded a negative contribution in 2015, 2016, and 2018, resulting in a decrease in GDP in the same period. Therefore, stimulating the secondary sector and establishing a value chain for the procedures used to produce beneficiation in Northern Cape Province could boost the growth and development of the province's economy.

Furthermore, value addition to the raw materials might increase the province's GDP tenfold. Therefore, there is an opportunity in the mining business, as there are no SMEs in the sector (SEDA, 2018). However, SMEs could undertake these value-adding activities within the Northern Cape Province, contributing to economic and sectoral growth.

The Northern Cape Province unemployment rate declined from 29.8% to 26.9%, a decrease of 2.9% as per the Quarterly Labour Force Survey between the third and fourth quarters of 2019 (Statistics South Africa, 2019b). However, the annual unemployment rate increased by 1.9%, with the highest unemployment rate for young people between 15 to 24 years (Statistics South Africa, 2019b). The national and provincial labour statistics declined in the second quarter of 2019. On a quarterly and annual basis, the Northern Cape Province labour market has slowed. The working-age population declined by 0.3% (2000 people) quarter over quarter compared to 1.1% (8000 people) year over year. In the first quarter of 2019, the labour force was at 434 000, and at the same time, the working population decreased by 7000 quarterly and 19 000 yearly. This is supported by Mohr (2015), who argued that a positive relationship exists between the working-age population and the labour force.

The labour force participation rate decreased (thus, declined by 1.9% quarterly and by 5.6% yearly) in both periods under scrutiny, consistent with the decrease in the labour force (quarter-on-quarter and yearly). Furthermore, the absorption rate declined 6.6% quarterly and 6.3% yearly. This decline demonstrates the economy's persistent inability to accommodate new and existing job seekers in the second quarter of 2019. The overall number of SMEs in the Northern Cape Province was 25 571 in the first socio-economic quarter of 2019, increasing by 7% yearly. While the mining industry contributes significantly to the Northern Cape Province's GDP, there are no SMEs in this sector. Trade and communication have the most SMEs, amounting to 3304 (that is, 31.31% of the firms in the industry) (SEDA, 2018).

Table 1: Northern Cape Province Number of SMEs as per Industry in 2019 Q1

Industry	Number of SMEs	Percentage (%)
Mining	0	0,00
Agriculture	2808	10,98%
Manufacturing	4835	18,90%
Construction	3341	13,06%
Trade & Accommodation.	8007	31,31%
Transport & Communication	3308	12,93%
Fin. & bus. Services	1097	4,29%
Community	2181	8,53%
Total	25 577	100%

Source: Small-Enterprise-Development-Agency, (2018)

1.3 Definition of Research Problem and Research Questions

In contemporary periods of economic calamity, SMEs face significant challenges in navigating their businesses through the life cycle, championing job creation, poverty alleviation, and tackling Northern Cape Province inequities through sustainable socio-economic growth and development. However, a large body of literature concurs that the failure rate of SMEs is significant, exacerbated by various internal and external obstacles impeding SMEs' growth and development (Bouazza et al., 2015; Olawele & Garwe, 2010). Additionally, throughout their brief existence, SMEs face various problems and obstacles during different growth phases (Kiriri, 2004). Thus, recognising the difficulties and factors affecting SME growth and development enables the identification of the multiple determinants of SME life cycle phases, which is critical for SME success (Bouazza et al., 2015).

Failure to strengthen the SME sector development generates several challenges for SMEs to achieve sustainable environmental and socio-economic development. The SEDA 2012 report outlines many limitations and obstacles SMMEs experience in Manufacturing, Agriculture, Information Communication and Technology (ICT), and Tourism. For example, markets for their products, upgrading technology, access to finance, skills development, value chain addition, and lack of infrastructure are a few elements that affect SME growth and development. Additionally, an empirical study conducted by, Olawele and Garwe (2010) found that the internal environment determinants impacting SME growth and development are related to entrepreneur attributes, technological skills, marketing and management capacities. By contrast, the external environment markets, economies, ICT, and infrastructure development affect SME growth and development. Abdullahi et al. (2015) reviewed approximately 50 scholars' empirical literature from various journal articles investigating the determinants influencing SME growth and development. In these studies, multiple dimensions have been studied that affect SME growth and development, for example, Abor's (2017) findings related to human capital shortage.

In addition, Chittithaworn et al. (2011) study in Thailand determined that resources, strategy, finance, management capabilities, external environment, customer and markets were determinants affecting SMEs' success. Also, Mahmood and Hanafi (2013) research evaluated entrepreneurial orientation and women-owned affected SMEs' performance in Malaysia. Furthermore, several studies analysed include entrepreneurial orientation as a multilevel dimension that impacts the growth and development of SMEs.

In South Africa, Fatoki (2013) investigated social, financial, and human capital determinants impacting SMEs. In contrast, Rogerson (2008) focussed on leadership development training, finance skills and more lenient regulations. Lekhanya (2015) concluded that a deficiency of marketing skills affects SMEs' success. Few Northern Cape Provincial SMEs move through the business life cycle phases, from start-up to existence, survival to success, take-off, and expansion maturity. As a result, in the long term, SMEs do not participate effectively and/or efficiently in inclusive, socio-economic growth and sustainable development. Therefore, to meet the goals of the NDP and the SDGs, the public sector, businesses, development finance institutions, educational institutions, and communities must all work together to grow the SME sector.

Numerous determinants of SMEs' growth and development in Northern Cape Province NCP lead to a slow, sustainable socio-economic and environmental development rate. However, high poverty rates, inequality, and unemployment also cause alarm in the Northern Cape Province. As such, this study examines crucial parameters affecting the establishment and development of SMEs inside the Northern Cape Province. However, the existing literature demonstrates that experts disagree on the critical determinants of SME growth and development. Therefore, the research aims to aid the SME sector in Northern Cape Province in developing a better knowledge of overcoming these obstacles, enabling SMEs to alleviate poverty, reduce inequalities, and create employment opportunities in Northern Cape Province. The research will focus on SMEs in the Northern Cape Province that have obtained grants or subsidies and enterprises that have received funding from the Department of Economic Development and Tourism-Northern Cape or any other government agency. Most of these SMEs are in the existing stage of development, while others are in the survival stage. A random sampling methodology will be used to draw a sample from the five districts in the Northern Cape Province using the Department of Economic Development and Tourism-Northern Cape SMEs database and demographic information.

1.4 Research Objectives and Questions

This section outlines the research objectives and questions that the study sought to answer.

1.4.1 Research Objectives and Hypothesis

The research objectives and hypothesis are:

1. To investigate the effects of entrepreneurial orientation on Small and Medium Enterprises growth and development in the Northern Cape Province, South Africa

H₀: Entrepreneurial orientation does not affect Small and Medium Enterprises growth and development

H₁: Entrepreneurial orientation affects Small and Medium Enterprises growth and development

2. To examine the effects of human capital on Small and Medium Enterprises growth and development in the Northern Cape Province, South Africa

H₀: Human capability does not affect Small and Medium Enterprises growth and development

H₁: Human capability affects Small and Medium Enterprises growth and development

3. To explore the influence of marketing capability and Small Micro Medium Enterprises' growth and development in the Northern Cape Province, South Africa

H₀: There is no effect between marketing capability and Small Medium Enterprises growth and development

H₁: There is an effect between marketing capability and Small and Medium Enterprises growth and development

4. To investigate infrastructure and technology effects on Small Medium Enterprises growth and development in the Northern Cape Province, South Africa

H₀: Infrastructure and technology do not affect Small and Medium Enterprises growth and development

H₁: Infrastructure and technology affects Small and Medium Enterprises growth and development

1.4.2 Research Question

The research will report on the following research questions:

1. What effects does entrepreneurial orientation have on Small, Micro, and Medium Enterprises growth and development in the Northern Cape Province, South Africa?

2. What impact does human capital have on Small, Micro, and Medium Enterprises growth and development in the Northern Cape Province, South Africa?
3. What are the association between marketing capability and Small, Micro, and Medium Enterprises' growth and development in the Northern Cape Province, South Africa?
4. What effect do infrastructure and technology have on Small, Micro, and Medium Enterprises' growth and development in the Northern Cape Province, South Africa?

1.5 Scope and Justification of the Study

While the Northern Cape Province is rich in mineral resources such as diamonds, manganese, iron ore, lead, and semi-precious stones, it also includes vast tracts of undeveloped land and solar parks. However, the Northern Cape Province's economic growth rate remains extremely low (2.3%) due to inefficient use of existing resources via value chain activities. SMEs are essential for fostering inclusive, sustainable socio-economic development through providing jobs, alleviating poverty, and reducing inequality. As a critical sector, SMEs may contribute to GDP growth and development by adding value along the supply chain, from resource extraction to processing and finally to market distribution. As a result, SMEs should perform a decisive role in reviving sustainable socio-economic growth and development in the Northern Cape Province. Thus, innovative entrepreneurs are required to drive these processes effectively.

The extraordinarily high poverty rates, inequalities, and unemployment rates in the Northern Cape Province jeopardise achieving the Sustainable Development Goals, Africa 2063 objectives, and national and provincial 2030 NDP goals. Understanding the many causes of the SME sector's survival and growth is critical for development. SMEs are essential for facilitating sustainable socio-economic and environmental development through job creation, poverty reduction, and inequality. SMEs are central to the Northern Cape Province's long-term growth development. Kumar (2017) proposes that studying the causes of small business development is critical. Furthermore, working with the public sector, the private sector, the World Bank Group, and other development institutions are necessary to assist SMEs' growth and development.

This research will focus on SMEs in Northern Cape Province, adding to the existing body of knowledge by analysing the variables and determinants affecting the SME sector's survival and expansion in the context of sustainable, inclusive, socio-economic growth and sustainable development. The findings of this research will assist the public sector, local government, the private sector, educational institutions, development finance institutions, communities, and other enterprises to obtain essential information that will help SMEs expand their knowledge base in the long run. Furthermore, they will utilise this

information to aid in the survival and expansion of SMEs in the Northern Cape Province, South Africa, and elsewhere.

The research will draw a representative sample of SMEs from the Northern Cape Province's five districts. The Northern Cape Province is the largest province in South Africa, which may pose challenges while conducting the research study. To begin with, travelling to conduct the survey is pricey. Second, SMEs may be unwilling to complete questionnaires, reducing the sample size. Third, any conclusions drawn will be invalid because this is not a representative sample. Fourth, increasing the number of people who take the survey or giving them more time to solve the problem would cost more than the original budget.

1.6 Organisation of the Study

The minor dissertation research paper will consist of five chapters.

Chapter 1 of the study introduces the dissertation by outlining the study statement of the problem and context, which will guide the formalisation of the study objectives and questions. Additionally, the chapter discusses the study's justification and significance. Chapter 2 provides an academic literature assessment on the factors that influence SME growth and development and the historical and theoretical context for the research objectives and hypotheses. An evaluation of current empirical literature relevant to the research objective and hypothesis testing should be logical reasoning. Chapter 3 summarises the research methodology and techniques used to analyse SME sector survival and expansion. Chapter 4 discusses the data analysis descriptive statistics and the analysis of the determinants impacting SME survival and growth. Lastly, chapter 5 reviews the research analysis results and makes proposals for additional research.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The literature review chapter evaluates the empirical literature by defining essential concepts and analysing theoretical and conceptual frameworks to model the determinants of SMEs' growth and development in the Northern Cape Province. In addition, an empirical examination of studies undertaken in South Africa and the Northern Cape Province will be conducted to substantiate key hypotheses. Before discussing how SMEs contribute to inclusive economic growth, development, and sustainability, this chapter will define SMEs. Additionally, the existing literature on SME growth and development determinants is reviewed, allowing for a more nuanced knowledge of the various scholarly perspectives on SME growth and development drivers. Finally, a conceptual framework or research paradigm will be derived from the existing literature gaps, contributing to SME growth and development knowledge base.

2.1 Definitions of key terms

The study's key terms are small Medium Enterprises, entrepreneurship and sustainable development.

2.1.1 Small Medium Enterprises

Defining and having a common perception of an SME is essential for this paper. A small business should be defined differently from a large company. In this study, the acronym Small, Micro, and Medium Enterprises (SMMEs) will work interchangeably with Small Medium Enterprises (SMEs). SME definition should be fundamentally different from larger firms. However, SME definitions can be specified theoretically and quantitatively. For example, theoretical criteria SMEs operate in a small market share, run by owner-managers, non-economic objectives, and internal and external environmental conditions are some factors that form the definition of SMEs.

On the other hand, the quantitative criteria imply employment, size, and income (Shepherd & Wiklund, 2005). However, utilising this approach is challenging to come to a clear definition of SMEs. However, according to Katua (2014), no standard definition of SMEs exists internationally. Moreover, SMEs' definitions vary in industrialised and developing countries, and the norms are sometimes controlled. For example, in India, Micro, Small, and Medium Enterprises Development (MSMED) Act, 2006 and the South African National Small Business (NSB) Act of 1996, the Amendment Acts of 2003 and 2004 are instances of SME legislation classifications. Since no common standard definition for SME presents a dilemma for statisticians, institutions, academic researchers, economists, and industrialists. Therefore in some countries SMEs analysis maybe biased based on the definition used.

Conversely, the Chinese definition of SME depends on employee count, sales volume (turnover), and asset value (Zheng, Neill, & Morrison, 2008), comparable to the World Bank and European Union definitions. However, the monetary values and quantities may differ per region. For example, India's legislation and the principles of MSMED Act 2006 criteria depend on the quantity and form of investment in plant, machinery, and equipment (Abor, 2017). Three factors determine a company class or size: total annual revenue, total full-time equivalent paid employees, and total gross asset value (excluding fixed property) under Section 1 of the 1996 NSB Act (The Republic of South Africa Government Gazette, 1996). On twelve October 2018, Section 1 of the NSB Act 1996 was amended to reflect new SME threshold values. As a result, total annual income and total full-time-equivalent paid employees were eliminated from the Minister's definition of a small firm (excluding fixed property). The updated definition of SME is *"An entity managed by a single owner or more, primarily engaged in any of the sectors or subsectors of the economy listed in column 1 of the Schedule, and classified as a (very small) micro, small or medium enterprise by satisfying the criteria listed in columns 3 and 4 and 5 of Schedule 1"*.

Because the research is being conducted in South Africa, the study will employ the 1996 amendment to the National Small Business Act to define a small business. SMEs must adapt to a changing environment that demands new ideas, efficiency, and reduced informality. SMEs are critical sectors that can help achieve the SDGs in developed and developing countries.

2.2.2 Entrepreneurship

A significant limitation of the existing literature is the disparate ways scholars define an entrepreneur, entrepreneurship, and SMEs globally, all vital components of any research. Thus, in this study, the entrepreneur will be referred to as the SME's owner and/or manager. They are typically the individuals that initiate and are responsible for the driving force of SME growth and development.

2.2.3 Sustainable Development

Sustainability refers to a business's ability to endure and thrive in an ever-changing competitive environment. It is contingent upon how successfully a business satisfies the requirements of individuals invested in its success. The business model must be sustainable; otherwise, even if the company's purpose is ecologically friendly, the business may be unsustainable. The World Commission on Environment and Development (1987) statement emphasised that sustainable development requires enterprises to simultaneously adopt long-term economic, social, and environmental principles. Thus, for businesses to demonstrate sustainable growth, they should include the concepts mentioned above (economic prosperity,

societal well-being, and ecological conservation) into their goods, policies, and practices (Masocha, 2018).

2.3 Inclusive Economic Growth, Development and Sustainability

In numerous developing countries, especially South Africa and the Northern Cape Province, economic growth and sustainable development are necessary to address the high poverty rates, inequality, and high unemployment. The neo-classical economists identified that a country's GDP would be determined by the three production factors: labour, capital, and land. However, Parkin (1998), on the other hand, identifies additional capital accumulation and technological change factors. Furthermore, Sloman (2006) distinguishes between actual growth, potential growth, and output. Throughout the eighteenth century, living standards increased primarily due to economic growth. A decade ago, economic growth would have been exclusively a macro-economic focus of aggregate demand and investment.

Nonetheless, in modern-day, these relatively new relationships between micro-economic and growth policies have focussed on the flexibility of labour markets, disincentives effects on red tape taxation, and incentives for inventions and innovations (Lipsey & Chrystal, 2011). Mladen (2015), on the other hand, suggests that GDP is the most quantifiable annual measure of economic output. Thus, economic development or production capacity would increase if the GDP increases. Additionally, the author adds that economic development is not only the quantitative changes but includes qualitative changes in the country's economic situation, which leads to the complete satisfaction of human needs.

However, Aghion and Howitt (2016) established a new economic growth paradigm based on Schumpeter's three core theories. Around thirty years ago, the authors were unsatisfied with the theoretically and empirically leading neoclassical endogenous growth models of Solow and Ramsey-Cass-Koopmans. Since Schumpeter's first idea was that innovations primarily generate long-run growth and the second innovations result from entrepreneurial investments. Although, the author agreed with Solow's stylish two equations, which received a Nobel prize in 1987. However, the models do not recognise Schumpeter's third "constructive destruction" idea; new innovations replace old technologies. Furthermore, the models do not address the influences of organisations or strategies that will impinge economic growth and upset innovation, SME growth, and sustainable development. Additionally, institutions and/or policies affect growth by affecting innovation and entrepreneurship.

Boldeanu and Constantinescu (2015) assert that economic growth is influenced by six factors: direct supply factors such as human resources, natural resources, increased capital employed, and technical developments. These four factors influence the price of goods and services supplied. However, economic

growth determinants are determined by two indirect factors: efficiency and demand. Each of these factors affects GDP differently depending on the developmental status of the nation.

Economic expansion and development were synonymous for many years, but this is no longer the case. However, the development concept evolved from the 1900s to the 1970s, and the development paradigm evolved, emphasising economic growth, finance, and investment. During the early decades of the twenty-first century, developmental concepts shifted from the one-dimensional concentration on economic growth and development steps to a multidimensional involving the sustainable social, economic, and environmental sectors (Sagasti et al., 2005; Akeem, 2014; Lorenzo, 2011). According to Seers (1972), economic development is not merely growth but should include measuring the decrease in poverty, unemployment, and inequality. This opinion was expressed 20 years before the United Nations Development Programme (UNDP). However, the UNDP launched 20 years later the Human Development Report and a measure for development by introducing HDI.

The 2018 Statistical Report of the UNDP quantifies the Human Development Index into three human development dimensions. Firstly it is the capability to attain knowledge, determined by average years of schooling and anticipated years of education—secondly, the capacity to lead a prolonged and healthy life is determined by life expectancy at birth. Thirdly achieved a decent living standard measured by gross national income per capita.

Lorenzo's (2011) perspective on development has four pillars: Regional Development, Human Development, Economic Development, and Sustainable Development. The author defines sustainable development as enhancements in the short run but not comprising the future resources and environment. Therefore, the generations will continue benefiting in the long term. Subsequently, territorial development takes advantage of the region's potential for natural resources, technology innovations, export, and local markets in a sustainable socio-economic, environmental and organisational environment.

2.4 SME Growth and Development

"SMEs have a role in contributing to the gross domestic product and job creation. However, one indicator of the percentage of SMEs that have succeeded in penetrating export markets and export potential is still relatively low compared to total existing SMEs. This phenomenon needs answers by knowing the factors determining the growth of SMEs" (Sarwoko & Frisdiantara, 2016).

However, SME growth and development have recently become a point of contention amongst researchers, policymakers, and institutions in developing and developed countries. Although SMEs are the catalyst to create more inclusive quality jobs, increase the production volume of intermediate goods, diversify into

export opportunities, innovate new technology products, and digitise business processes to compete in local and global markets.

The extant literature has divergent ideas on how the SME sector will refashion the building blocks to transform the economy, alleviate poverty, and redistribute income. However, optimising the current opportunities for SMEs is contingent on numerous external and internal enabling factors favourable for SME growth and development. Therefore, several research studies have been done concerning this topic (Olawale & Garwe, 2010; Okpara, 2011; Akeem, 2014; Ayyagari et al., 2017).

In most developing countries, the failure rates of SMMEs are high due to several unfavourable determinants within the business environments in which the SME sector operates. Additionally, this damages the country's long-term socio-economic growth and development, benefiting general welfare. Numerous perspectives and hypotheses contribute to the present literature's understanding of SME growth and development determinants. For instance, Gupta, Guha, and Krishnaswami (2013) distinguish four theoretical ideas: strategic adaptation-based, motivation-based, resource-based, and configuration-based. In addition, numerous factors contribute to SME growth and development and depend on non-financial and financial performance. However, a small body of research exists on SME growth and development. The Resource Based View holds that the market has limitless opportunities; therefore, SMEs need to manage and operationalise the available resources to get a competitive advantage to exploit the market opportunities.

Zhou and De Wit (2009) identify three factors determining SMEs' growth: individual, organisational and environmental. Furthermore, firm growth can be measured by employment growth, sales growth, profit growth, and ecological factors measured by market indicators, technology utilisation, and infrastructure conditions (Zhou & De Wit, 2009; Sarwoko & Frisdiantara, 2016). Sarwoko and Frisdiantara (2016) conducted an empirical in Malang (Indonesia) and discovered that multiple dimensions such as individual, organisational, and environmental determinants influence SME growth and development. However, individual determinants have multilevel sub-dimensions, which characterise how the entrepreneur deals with opportunities in the market changes through unique, innovative solutions to grow and develop the business. These factors require the owners' appropriate knowledge, skills, and experience, independent of other determinants. Also, organisational determinants depend on the capacity to manage human capital, financial, strategic orientation, entrepreneurial orientation, and non-financial resources economically, efficiently and effectively.

On the other hand, shifting environmental factors should be examined through the lenses of dynamism (the stability and predictability of markets, technology, infrastructure and diversity), philanthropy (supporting SMME growth) and the complexity of SMMEs (Baum, Locke, & Smith, 2001). For example,

Zhou and De Wit (2009) agree with the latter authors that individual and organisational determinants affect SME growth and development. Still, the empirical study Zhou and De Wit (2009) conducted on 523 Dutch SMEs found that environmental factors do not affect SMME growth.

One other determinant affecting SMME growth is an increase in SMME employment. Nevertheless, there are diverse views on this discipline.

2.4.1 Public Sector and SMEs

Abor (2017) argues that the Public Sector should provide security for loans on behalf of the SMMEs' so that access to finance is accessible to SMEs. However, this has not been very successful, especially in Central Africa. Additionally, supporting intermediary agencies so that they can promote networking opportunities. In developing countries, regulations and policies are inadequate and insufficient.

According to Mazzucato (2015), an entrepreneurial state must "*think big*". Governments should change traditional economic roles and outlook, such as reacting to market failures and move beyond that mindset by looking at new economic forms. For example, the author believes that governments should adopt a portfolio approach to public investments in innovations. This requires a different way of doing business in government and the public sector, transforming the public sector to become entrepreneurial in their outlook and explorative building capacity. In summary, four key questions to be addressed in the future are; redirecting public policy and route of change, evaluating public economic policies beyond traditional ones, organisational change, social risk and social rewards for "*smart growth*", including "*inclusive growth*".

2.4.2 Financial Capital and SMEs

A critical challenge in overcoming major determinants affecting SMMEs' inclusive growth and development is access to finance, especially the vulnerable groups (Okpara, 2011; Abor, 2017). Many other scholars debate that accesses to finance is the most critical constraint for SMME growth and development. However, Schmidt et al. (2017) believe that if governmental agencies, other financial institutions, and banks make money more easily accessible, this may not solve the SME sector problems. In addition, the authors focused on two theories; the finance gap theory, that is, limited access to finance or high finance costs and high agency costs. The second theory is the resource dependence theory, where SMEs depend on grants or internal stakeholder funding to remain in business. However, according to Okpara (2011), other determinants such as poor management, corruption, shortage of training and experience, inadequate external and internal infrastructure, and markets for the products are constraining the SME sector. Also, many SMEs do not have financial management training and record keeping.

Current OECD analysis indicates that South Africa's low ratio of SME financing compared to total private sector financing is not according to the norm (BASA, 2018). Therefore, the system needs to be changed through more targeted financial interventions, and regulatory reform could be necessary (Kumar, 2017). Regulatory or policy frameworks established for SMEs should be monitored and evaluated to establish whether these mechanisms have the expected results.

2.5 Determinants of Small Medium Enterprises Growth and Development

The section outlines SME growth and development determinants, mainly focusing on the study's research objectives.

2.5.1 Entrepreneurial Orientation and Small Medium Enterprise Growth and Development

Several studies in developed and developing countries implemented entrepreneurial orientation in their research as a determinant for SME growth and development from start-up to maturity. Recently, there has been an increase in the scholarly study undertaken on the effect of entrepreneurial orientation on SME growth and development (Covin & Lumpkin, 2011). The authors observed the different theoretical perspectives and quantifications of the concept related to entrepreneurial orientation. In addition, the authors discuss various practical reasons why the concept of entrepreneurial orientation fulfils a critical vacuum in the research of entrepreneurial orientation theory and practice, contributing to the relevant prevailing body of knowledge on this topic. For example, the matters raised by the authors differentiate between dispositional or behavioural constructs and formative and reflective measures. Furthermore, the authors suggest the unidimensional and multidimensional concepts as co-existing constructs in the theory and practice of entrepreneurial orientation (Covin & Lumpkin, 2011).

Entrepreneurial orientation is a term that refers to a firm's entrepreneurial strategic choices or orientation, encompassing the strategy-making processes and management decision-making styles that engage in entrepreneurial activities (Shepherd & Wiklund, 2005; Lumpkin & Dess, 2001).

Miller (1983) describes the starting point for entrepreneurial orientation of an SME:

"Is demonstrated by the extent to which the top managers are inclined to take business-related risks or risky ventures (the risk-taking dimension), to favour change and innovation to obtain a competitive

advantage for their firm (the innovation dimension), and is first to come up with proactive innovations, beating competitors to the punch (the proactiveness dimension)."

The existing research has two divergent ideas on conceptualising the latent construct of entrepreneurial orientation in five or three dimensions. Lumpkin and Des (1996) define entrepreneurial orientation as a multidimensional (five-dimensional) construct comprised of autonomy, innovation, risk-taking, competitive aggressiveness, and proactiveness. Hughes and Morgan (2007) reinforced the arguments of Lumpkin and Des. However, Miller (1983); and Covin and Slevin (1989), on the other hand, propose unidimensional (three-dimensional) constructs of entrepreneurial orientation as an amalgamation of innovativeness, risk-taking, and proactiveness, which the SMEs simultaneously establish. Additionally, these dimensions can fluctuate independently depending on the internal and external environmental conditions influencing SME growth and development. The internal factors are the managers' characteristics and how the SME is structured. Although several scholars prefer the three-dimensional constructs, other views also provide exclusive intuitions of entrepreneurial orientation. According to Covin and Lumpkin (2011), either the conceptualisation of the three or five-dimension constructs will contribute to the knowledge base of entrepreneurial orientation. Thus, it does not matter whether the unidimensional or multidimensional construct is adopted.

2.5.1.1 Innovativeness and SMEs Growth and Development

Schumpeter (1934) was the first to recognise the entrepreneur as an innovator and drive the economy's evolution by disrupting current market structures by introducing new products and creating new SMEs, translating into "constructive destruction".

SMEs that create new ideas, products, technologies, or services are not necessarily innovative. Innovativeness occurs when new ideas, products, technologies, or services are successfully commercialised. Innovativeness denotes an inclination toward creativity, researching and developing new goods and services, introducing new novel products, taking the lead in mastering the latest technology requirements, and creating unique solutions to customers' needs (Lumpkin & Dess, 1996; Lumpkin & Dess, 2001; Taylor, 2013). Innovativeness is positively related to SME performance. Innovativeness gives SMEs a competitive advantage over their competitors. It changes how SMEs apply the marketing orientation acquired through marketing information and introduce new insights to improve SME performance (Taylor, 2013).

2.5.1.2 Risk-taking and SMEs Growth and Development

The extant literature differentiates between risk and uncertainty. SMEs operate in challenging environments rather than uncertain environments.

Entrepreneurs continuously have to make decisions or take calculated risks on organising resources in competitive and constantly changing environments that will impact SME performance (Le Roux & Bengesi, 2014). Some decisions can affect SMEs' performance positively or negatively, thus involving risks.

Risk-taking as a concept relates to features explaining entrepreneurial activities (Lumpkin & Dess, 1996; Zhou & De Wit, 2009). High risk-taking behaviour is a proclivity to take courageous decisions to explore unidentified new markets by committing significant resources and borrowing heavily to invest in projects that results in unknown outcomes (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Le Roux & Bengesi, 2014). SMEs, on the other hand taking higher risks, are more likely to identify new existing market prospects. Thus, the expectation is a positive relationship between risk and SME growth and development. However, some research findings were contrary to this view (Zhou & De Wit, 2009)

2.5.1.3 Proactiveness and SMEs Growth and Development

Proactive SMEs refer to how they relate to new market opportunities by being proactive in anticipating the future demands of market opportunities to commercialise new products before competitors (Lumpkin & Dess, 1996; Lumpkin & Dess, 2001). Furthermore, they continuously develop innovative ideas and new products (Le Roux & Bengesi, 2014; Zehir et al., 2015b). Hughes and Morgan (2007) suggested that proactive scanning of markets inspires SMEs to antedate market challenges and innovate novel products and ideas to meet customer needs. However, at the same time, commercialising these ideas is critical for the SME to succeed. Alternatively, if they do not commercialise the innovative idea proactively, this will potentially lead to the failure of the SME.

Extant literature recognises that relevant measures of entrepreneurial orientation are the three dimensions (that is. innovativeness, proactiveness, and risk-taking). Therefore, this paper will focus on the three dimensions constructs of risk-taking, innovativeness, and proactiveness. Furthermore, since the validity and reliability measures are high, it would be rational to accept that entrepreneurial orientation is part of this study to answer the research questions (Taylor, 2013; Wales, 2016).

2.6 Market Capability and Small Medium Enterprise Growth and Development

Few scholars reason that the marketing concept is a fundamentally simple process in conceptualising customer behaviour and needs. However, why do SMEs require a complex and time-consuming market strategy and implementation plan? Several SMEs lack the resources necessary to hire marketing professionals to develop and implement their marketing strategies. According to Drummond et al. (2008),

SMEs are involved in many complex tasks that must adapt to the constantly changing internal and external environmental conditions.

Furthermore, SMEs lack resources, information is not readily available, continuously compete with competitors, and deal with unexpected events. Thus, a market strategy and implementation plan are imperative for SME success (Drummond et al., 2008). Best (2013) advocates a customer-centric market-based strategy oriented toward rivals and guided by a market-based management philosophy that results in robust market orientation. This study has identified a measured variable: if the SMEs have a well-structured marketing strategy and implementation plan.

Stage theory studies SME export behaviour, which explains the likelihood that SMEs venture into the export markets based on expanding stages driven by adopting innovation and the interaction between commitment and knowledge of foreign markets. These stages are incremental steps SMEs follow to enter the export markets, usually starting close to the borders (Williams, 2009). The Uppsala model, known as the U-model developed by Uppsala University, conceptualised the export processes of SMEs. The model postulate that improved knowledge of the foreign markets intensifies the progression to export markets (Williams, 2009; Taylor, 2013). According to Williams (2009), due to rapid technology changes in the last two decades, SMEs do not necessarily follow stepwise processes but rely on international networks and improve supply chain processes to improve their export readiness.

Essential marketing abilities such as prospecting, client focus, identifying effective advertising methods, pricing tactics, and concept generation are critical to an SME's long-term success (Cant & Wiid, 2013). On the other hand, Lekhnya's (2015) study in Kwazulu Natal of South Africa concludes that lack of marketing skills and knowledge were the main internal factors affecting SMEs' success. Furthermore, according to Van Scheers (2011), owners of SMEs who lack managerial marketing skills have a higher rate of business failure than those with marketing skills. Thus, a significant challenge in South Africa is to improve the marketing skills of the individual entrepreneur of the SMEs (Van Scheers, 2011).

SMEs who invest more time communicating and co-operating with customers via digital means or other means are more successful. For example, they can improve their strategic position, acquire innovative skills, pay attention to the core business, enter new markets, and deal with the ever-changing technology (Aminul, Khan, Obaidullah, & Syed, 2011). In addition, SMEs should be more proactive to new market opportunities and take risks to experiment with new goods and services. Furthermore, innovation combines product-market innovation and technology innovation, whereas product-market innovation includes market research, advertising, communication, cooperation, and promotion of goods and services. This study measures how SMEs utilise innovation to advertise products by blending products and technology via the available media.

2.7 Infrastructure and Technology and Small Medium Enterprise Growth and Development

Electricity, water, roads, telecommunications, and electronic media are physical infrastructural services critical to SME growth and development (Pretoria, 1999). Nkwinika and Munzhedzi (2016) propose that municipalities with insufficient infrastructure and technology lead to substandard delivery of services and impede socio-economic growth and sustainable development. Furthermore, inadequate infrastructure and technology affect manufacturing costs (Tefera, Gebremichael, & Abera, 2013). Therefore, infrastructure and technology are crucial to sustainable socio-economic growth and development (Nkwinika & Munzhedzi, 2016). Olawale and Garwe (2010) have determined that the quality of infrastructure in developing countries, especially in South Africa, can impact SME growth and development. Furthermore, the continuous load shedding in South Africa negatively affects SMEs' production and revenue. In addition, the appalling conditions of the existing infrastructure, such as roads, access to water, electricity, and technology, and availability of land, impact SMEs' growth and development.

"We live in a complex and dynamic world in which innovation and entrepreneurship occupy a decisive role in economic development" (Śledzik, 2013).

SMEs must have access to appropriate technology to keep a competitive edge. However, this access remains restricted for disadvantaged societies (Pretoria, 1999). Additionally, technological literacy aids in the growth of production and the total performance of SMEs. Therefore, the Public Sector, Government Agencies, Private Sector and relevant stakeholders need to establish a favourable environment for businesses to operate, particularly in technology. Thus, encouraging SMEs to participate in innovative ideas and activities to become more profitable (Tefera et al., 2013).

Innovation is critical for Africa's existing economies to transition to a knowledge-based economy. Thus, sustained socio-economic growth and development are dependable on technological advancement and innovation. The findings of Booyens (2011) concerning the result of the South Africa National Innovation Survey (2002–2004) relate to "the rate of innovation of SMEs is relatively high, with small businesses reporting the highest rate of innovation." To increase their efficiency and productivity, SMEs need to invest in new technologies and become more innovative in developing their business models and marketing their products. SMEs' innovative or creative ability is critical to adapting to local environments. According to Rogerson (2001), the success factor for entrepreneurship and SME growth and development is crucial to innovation. Luiz (2002) contends that SMEs serve as a breeding ground and testbed for innovation.

Abor (2017), on the other hand, considers SME innovators to create new technological items and business processes and contribute something unique, novel and valuable to the organisation. These societies or communities benefit from these innovations in which they are implemented. As a result, policymakers in South Africa have very little micro-level knowledge to inform their innovation policies. Due to the high rate of innovation among SMEs, their contribution to the development and economic expansion of the Northern Cape Province is critical. SMMEs, on the other hand, face difficulties for various reasons that all stakeholders must address.

2.8 Human Capital Knowledge and Skills and Small Medium Enterprises Growth and Development

This section intends to analyse how human capital contributes to SME growth and development. Human capital refers to individual entrepreneurial education, knowledge, skills, and experience. Resources are categorised as the inputs that will assist the SMEs in generating profits and growth, such as human, social, organisational, infrastructure, land, market know-how, and financial (Greene et al., 1996; Rungani & Potgieter, 2018). Human capital is attributed to knowledge, skills, and experience, whereas social capital is attributed to business networks (Wiklund & Shepherd, 2005). Human Capital Theory and resource-based perspective claim that knowledge and skills form are considered a component of capital production, implying an investment in people. As a result, the knowledge, skills, and experience acquired via education and on-the-job training become a means of production (Fatoki, 2011).

The RBV includes the cognitive ability and capabilities of the entrepreneur, recognising existing opportunities in the markets, and efficiently mobilising the SMEs' available resources, giving them a superior advantage in the markets (Alvarez & Busenitz, 2001; Rungani & Potgieter, 2018). However, human capital can be categorised as general and specific. The general variables would include the age of the entrepreneur, educational qualifications and working experience in years. At the same time, the specific variables for specific human capital include explicit business education and skills and the related managerial and industry experience.

The question to be addressed is which SME is more likely to engage in entrepreneurial activity. Individual entrepreneurs with greater human and social capital are most likely to be involved in entrepreneurial activities and thrive, according to the RBV and Human capital theory. Therefore, it is argued that human capital positively correlates with SME growth and development. Furthermore, individual entrepreneurs with superior human capital can optimally manage their resources to capitalise on the current market opportunities and increase their innovativeness (Fatoki, 2011; Wiklund & Shepherd, 2005; Ganotakis, 2010). In South Africa, Rogerson (2008) focused his research on three premises; training, skills acquisition, finance, and regulatory environment for SMME development.

The educational qualification and size of the SMEs are critical factors that determine positive SME growth and development. Rogerson (2008) concluded that the owners of SMEs must have the necessary education and skills and continually attend workshops and seminars to gain the required skills and knowledge to ensure the business's growth and sustained development. Although financial resources are a critical success factor, they should not be the only driving force of SMEs (Yeboah, 2015). The themes identified remain high on the global agenda for SME growth and development. Hence, investigate the relationship between human capital and SME growth and development in the Northern Cape Province.

2.9 Conceptual Framework

This section describes the various theories from several disciplines necessary to provide a theoretical and conceptual foundation for an integrated model of SME constructs affecting SME growth, development, and sustainability. However, sustainability comprises several other dimensions, including inclusive economic growth and development, social welfare, and environmental perspectives. The conceptual framework will aid as the foundation for analysing the determinants of the SMEs under consideration, thereby assisting in addressing the research objectives and concerns. This section identifies an integrative model inside a theoretical framework conceptualised through existing literature.

According to Simpeh (2011), entrepreneurship and SME theories encompass a range of disciplines, including psychological, sociological, anthropological, economic, opportunity-based and resource-based, supported by empirical evidence. However, Kumar (2011), on the other hand, identifies an entrepreneur in the theoretical framework disciplines of economic theory- risk-taker, a psychological theory-a family upbringing, sociological theory-an organiser, innovation theory-an innovator, and motivation theory-a motivator. Bula (2012), on the other hand, approaches entrepreneurship as a mental act, evolution, actors, and human capital.

A significant limitation in the extant literature of today is that researchers investigated the determinants that affect SME growth and development as a set of disjoint elements rather than from an interdisciplinary perspective (Zhou & De Wit, 2009). However, none of the studies identified the dominant perspectives as an integrated construct by combining the views of the different subjects (Fuller & Moran, 2001; Zhou & De Wit, 2009). As a result, the authors proposed that the SME growth and development constructs should amalgamate individual, organisation, and environmental factors. Hence, analysing the determinants affecting SME growth and development would require consolidative methodologies to explore the exogenous and endogenous constructs and environments within which they operate.

Nevertheless, the plethora of research studies over the past two decades has shown that the analyses of determinants affecting SME growth and development require a systematic construction of a theoretical

framework that includes a multidimensional approach. Therefore, scholars researching SMEs or entrepreneurship should analyse the multilevel aspects within the socio-economic and environmental context. Furthermore, they would utilise an integrative approach in designing an empirical study (Davidson & Wiklund, 2001).

According to Wiklund, Patzelt, and Shepherd (2009), SMEs operate in a complex, dynamic, and heterogeneous environment, making it challenging to quantify SME growth and development because it is not a one-dimensional perspective. An emerging interdisciplinary study of complex situations called complexity theory, a new multidisciplinary study of complicated circumstances, is equivalent to complexity science, derived from a systems theory approach (Galawe, 2017). The complexity theory approach may provide a theoretical foundation if SMEs are kin to complex adaptive systems that operate concurrently at six hierarchical ontological levels. Nonetheless, appropriate levels for SMEs range from micro-economies to the competencies, attitudes, and mental models of SME owners and/or managers (Fuller & Moran, 2001).

According to Wiklund, Patzelt, and Shepherd (2009), taking into account the five primary features of a comprehensive view of SME growth and development would allow researchers to increase the knowledge base concerning the interrelationships between SME growth and development and the dominant perspectives. Additionally, by incorporating the more minor characteristics, academics would gain a holistic understanding of SMEs. Thus, the author proposes an integrative SME growth and development model based on a multidimensional domain. Each is emergent from the one below and represents the cross-disciplinary approach of various fields.

This conceptual framework model is not founded on mathematical axioms but the theories of Fuller and Moran (2001); and Wiklund, Patzelt, and Shepherd (2009) to construct an integrated conceptual model for studying the determinants of SME growth and development.

Thus, the study identified the following critical latent variables or exogenous constructs that will affect SME growth and development:

1. Entrepreneurial Orientation (Innovation, Risk, and Proactiveness).
2. Human Capital Knowledge and Skills
3. Marketing Capability
4. Infrastructure and Technology

Figure 5 below represents the conceptual model indicating the different constructs or latent variables to be analysed using PLS-SEM with Smart PLS 3. The exogenous variables are entrepreneurial orientation,

human capital, marketing capability, and infrastructure and technology, and the endogenous variable is SME growth and development. Also, the moderator of human capital.

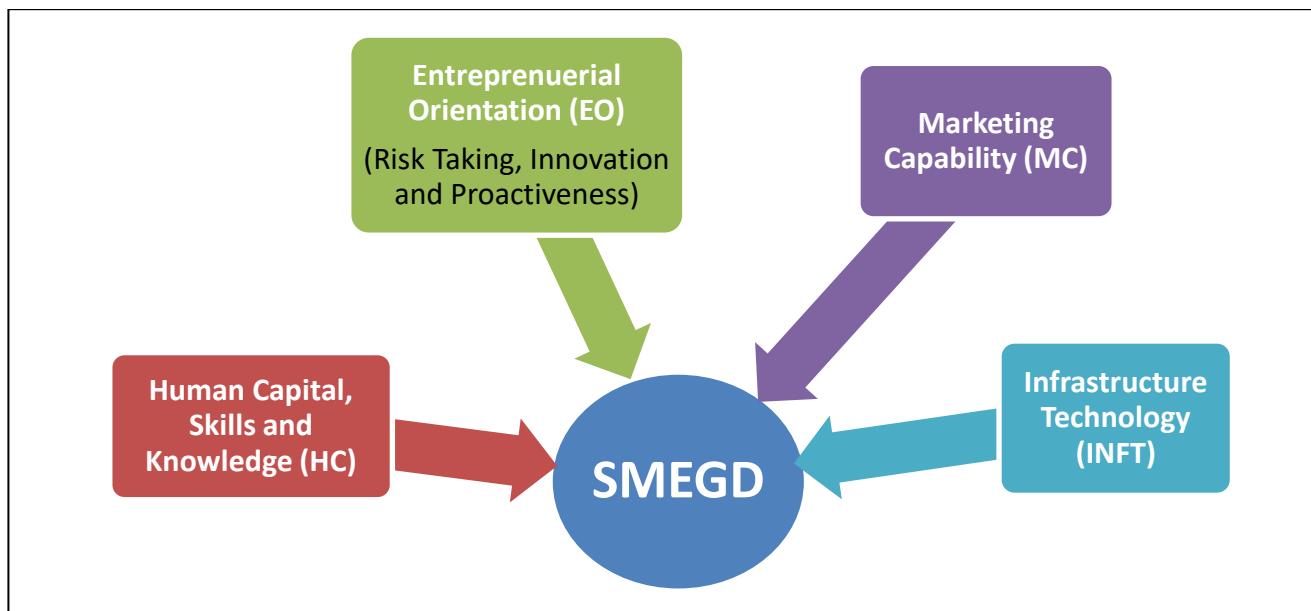


Figure 4: Conceptual Model

Source: Researcher Computation

2.10 Chapter Conclusion

Abdullahi, Abubakar, Aliyu, and Umar (2015) evaluated several research studies undertaken by researchers investigating the constructs that influenced SMEs' growth, survival, and performance. Researchers differed in the methodologies, approaches, and concepts to ascertain which determinants impacted SME growth and development. To investigate these variables affecting the expansion of SMMEs, some researchers used quantitative analysis, while others conducted qualitative investigations. However, the author discovered that only five academics adequately captured the elements affecting the success and growth of SMEs. In addition, the researcher raised a concern that some scholars ignored, including supportive theories to justify using the concepts in their studies. However, the author concluded that constraints relevant to developing countries should be chosen. Most studies used regression analysis; hence the authors proposed that Structural Equation Modelling (SEM) be utilised to study the constraining factors affecting SME growth and development, identifying this as a gap in the literature reviewed. As a result, as the authors have mentioned, a knowledge gap occurs. The research aims to fill a knowledge gap by examining critical theoretical frameworks and concepts pertinent to the Northern Cape Province. The PLS-SEM will be used to analyse the data acquired in this investigation. The forthcoming chapter addresses the study's research methodology.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

This chapter discusses the research methodology utilised to design a questionnaire, draw a scientific sample, collect the data, and analyse the data utilising statistical methods. The research will take an empirical approach, analysing primary data acquired using a Likert Scale questionnaire and secondary data for context information. The methodology section would include the procedures to address and answer the study objectives and questions to ensure that the findings are legitimate and credible.

3.1 Research Design

A research design is a strategy for directing research that comprises numerous processes such as data gathering, instrument creation, and sampling (Bhattacharjee, 2012). For instance, this study performs a cross-sectional study in the Northern Cape Province and collects data through a well-structured questionnaire. In addition, this study used an exploratory research method. In exploratory research, questions are presented to a sample of the total population to gather information about their attitudes, perspectives, and behaviours (Kothari, 2004). Northern Cape Province, South Africa's SMEs, were studied using an exploratory survey design. The design was selected since it is a standard way to test concepts before their commercialisation, identify logical reasons for indications or symptoms indicated by decision-makers, and assist in strategic planning. Qualitative data is collected and analysed first in exploratory designs, and the results are then used to inform the quantitative process. As a result, it aids in developing research instruments that may be used to extract quantitative information from qualitative data.

3.2 Population and Sample

The research population was restricted to SMEs receiving a subsidy, grant, or business with the Department of Economic Development and Tourism Northern Cape or another government department. DEDaT-database of Northern Cape included information on 280 SMMEs in the Northern Cape Province. The 280 SMEs in the DEDaT-database do not represent all Northern Cape Province SMEs or those who conducted business with other government departments. The study used the DEDaT-database, a critical provincial agency that aids SME growth and development in the Northern Cape Province. All responses were contacted by e-mail via the Department of Economic Development and Tourism DEDaT-Integrated Economic and Development Services Unit of the Chief Director's office. From the target population of $N = 280$, a random sample method was utilised to extract a representative sample from the five districts of the Northern Cape Province. According to Krejci and Morgan's (1970) table, a sample was chosen.

Suitable sample size would be 162 for a population $N = 280$. Although the required sample size was 162, a random sample of 175 was chosen from the target population of 280. One hundred and seventy-five questionnaires were emailed to SMEs in the Northern Cape Province, representing 62.5% of the target population.

3.3 Design and Procedures of the Data Collection Instrument

The research aimed to study the determinants of SME growth and development. Bhattacharjee's (2012) research looks into SMEs; hence, the unit of analysis was SMEs, and the individual or manager of the SME constructed a decision on behalf of the SME. As a result, the assumption represents the SMEs' decision rather than their individual choices. This research aimed to explore the collected data from sampled SMEs. Therefore, the analysis unit would respond to inquiries of the preferred SME owner and/or manager. The measurement instrument for this study was a questionnaire distributed to SMEs. All factors essential for this investigation were included in the questionnaire. The Department of Economic Development and Tourism-Northern Cape database was also used to obtain secondary data.

The questionnaire design was based on the paper of Wiklund, Patzelt, and Shepherd (2009). However, not all questions came from this article, but the officials of the Department of Economic Development and Tourism-Northern Cape gave input to a few questions. The questions of the questionnaire were closed-ended. The questionnaire consisted of seven sections with a total of 49 items. The first section was based on the demographic and the regional questions, which consisted of 11 questions. Section 2 dealt with questions related to human capital, composed of 6 questions. The third section was based on finances and had eight items. Questions dealing with market capability consisted of eight items, and section 5 had 1 item dealing with networks. The infrastructure questions had nine items, which was section 6. Finally, section 7 dealt with questions about entrepreneurial orientation, subdivided into three subcategories. The first dealt with innovation, having four items, the second dealt with risk having four items, and the last dealt with proactiveness having six items.

The questions from section 3 of the questionnaire used the Likert Scale ranging from 1 to 5, where 5 – strongly agree and 1- strongly disagree. Questionnaires were emailed to all selected participants with the assistance of DEDaT officials who assisted with follow-ups. Participants were contacted when they had difficulty answering the questions. Since the Northern Cape Province is vast, meeting some participants was difficult, but follow-ups were done telephonically. Participants used email to respond; however, participants who did not have email arrangements were made to ensure that the questionnaire was returned.

3.4 Data Collection

There is a difference between secondary and primary data sources. Therefore, the primary cross-sectional data collected utilised a questionnaire-based survey. Simultaneously, the secondary data collection was accessed from the Department of Economic Development and Tourism-Northern Cape database. The secondary data was accessed from the Department of Economic Development and Tourism-Northern Cape database to analyse the relevant background, financial information, and other demographic data. The data were obtained from the Integrated Economic Development Services unit responsible for SMEs in the Department of Economic Development and Tourism-Northern Cape. Participants completed questionnaires, and quantitative data were recorded using the Likert scale. The data was initially coded and captured on an Excel spreadsheet before moving to IBM-SPSS software. Following that, Excel was used to sanitise the data. The data would then be transferred via Excel to SPSS and Smart PLS vers3. Finally, IBM SPSS and Smart PLS vers3 software analysed the respondents' questionnaires' data.

3.5 Data analysis

After coding and cleaning the data, it is critical to employ the appropriate software to assist the researcher in analysing the data to achieve the objectives. The Structural Equation Model (SEM) is a statistical modelling technique founded on theoretical notions and hence has an advantage over first-generation analytic methods. SEM broad framework is included in the category of multivariate statistical methods (Westland, 2015). SEM uses a variety of theoretical models to illustrate the link between observable variables, which can be tested via a hypothesis. Multi-regression, principal component analysis, factor analysis, and path analysis are a few examples (Schumacker & Lomax, 2010).

SEM fundamental concept is a path model comprised of a measurement model to appraise reliability and validity, whereas a structural model evaluates latent variables' predictive capacity and significance. Furthermore, the measurement model describes the link between variables and their related indicators. By contrast, the structural model represents the link between latent constructs that must be evaluated by hypothesis testing (Sarstedt, Ringle, & Hair, 2017). As a result, the authors advocate developing a route model, and the researchers point out the structural theory, indicating the need to include latent variables. By contrast, measurement theory quantifies the latent variable using items (Rigdon, Sarstedt, & Ringle, 2017). To begin, researchers need to grasp the fundamental statistical assumptions that must be made to identify a suitable model. In addition, numerous things must be considered when utilising PLS-SEM (Rigdon, Sarstedt, & Ringle, 2017).

Wold (1974, 1980, 1982) pioneered PLS, a type of SEM, to analyse high dimensional data close to a structured ground environment (Benitez, Henseler, Castillo, & Schuberth, 2020). However, Hair et al. (2014) state that the “*PLS-SEM technique is based on an iterative approach that maximises the explained variance of endogenous constructs.*” PLS-SEM develops and predicts theory but maximises covariance between constructs, improving the model interpretation. In addition to having a small sample size, PLS-SEM has an advantage when dealing with formative and reflective models.

This study aimed to investigate how the exogenous variables entrepreneurial orientation (innovation, risk, and proactiveness), human capital, market capabilities, infrastructure and technology, and the endogenous variable SME growth and development will be influenced. Additionally, the researchers studied the restrictions of SME growth and development, emphasising entrepreneurial orientation and human capital, which include the mediation effect of market capabilities and infrastructure and technology and the moderating influence of human capital on SME growth and development in the Northern Cape Province. The latent variables link was also analysed using a 2nd generation multivariate statistical technique, such as the PLS-SEM. The data analysis comprises the following stages. Firstly, the reliability and validity were assessed using the measurement model techniques. Secondly, hypothesis testing and predictiveness were calculated with the structural model technique. Finally, these measures were calculated using a PLS-SEM with the software tool SMART PLS vers3.

3.6 Reliability and Validity

The research instrument's validity and reliability were determined primarily by its internal consistency, indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. (Sarstedt et al., 2017; Hanafiah, 2020).

3.6.1 Indicator Reliability

When dealing with the reflective measurement model, it is recommended to analyse indicator loadings first. However, there are divergent views in the existent literature about the most acceptable criteria for assessing indicator dependability. As a result, the 1st step in analysing the measurement model is to evaluate the indicator reliability. For instance, loadings of 0.700 indicate that the latent variable will account for at least 50% of the variance in the items, showing a reasonable degree of dependability. Although loading factors greater than 0.700 are permissible. However, it is usual to consider factor loadings of more than 0.600 sufficient (Hair et al., 2014).

Furthermore, Hair et al. (2014) proposed that reflective indicators are highly correlated and interchangeable. Therefore, removing an item will not impact the latent variable. Therefore, the researcher should examine the reliability and convergent validity before eliminating an item from the measurement model. Usually, items with outer loadings between 0.400 and 0.700 are considered eliminated from the model. However, indicators with outer loadings greater than 0.400 should not be removed if the average variance extracted is more than 0.500 or the removal decreases the convergent reliability concerning the item removed.

3.6.2 Internal Consistency Reliability

Cronbach's alpha (α) value measures internal consistency reliability. If $\alpha > 0.700$, Internal Consistency Reliability would be acceptable but can underestimate internal consistency reliability. On the other hand, composite reliability is too liberal; hence ρ is an adequate measure of internal consistency reliability loadings when using PLS-SEM (Sarstedt et al., 2017; Hair et al., 2018; Hanafiah, 2020).

3.6.3 Convergent Validity

Sarstedt et al. (2017) and Hair et al. (2018) describe convergent validity as the degree to which a latent variable converges to adequately describe the variance of the indicators to which it is related. Convergent validity is calculated by determining the average variance extracted for all latent variable indicators. A suitable level is $AVE \geq 0.5$, which means at least 50% of the variance is in its items (Hair et al., 2018).

3.6.4 Discriminant Validity

The definition of discriminant validity indicates the degree to which one latent construct is correlated with another latent construct; typically, latent variables should be mutually exclusive, and items should be associated with just one latent variable. Fornell and Larcker (1981) and cross-loading are two techniques for determining whether discriminant validity exists (Hair et al., 2014). The Fornell and Larcker technique suggests that for any latent variable average variance extracted should have a stronger correlation with all latent constructs than the maximum squared correlation with all latent constructs. Also, the cross-loading methodology dictates that each indicator's load should be more than the latent constructs-related load (Hair et al., 2014). However, in recent years, Fornell-Larcker criteria have been deemed unreliable for detecting discriminant validity. Thus, another new methodology, the Heterotrait-Monotrait correlation ratio, was developed (Henseler et al., 2016). The definition of the Heterotrait-Monotrait correlation ratio is "*the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct*". If Heterotrait-Monotrait correlation values are significant, preferably significantly less than one, then discriminant validity problems are

present. Therefore, a proposed criterion is that discriminant validity is recognised if the value of the Heterotrait-Monotrait correlation ratio is less than 0.9 (Jörg Henseler, Hubona, & Ray, 2016).

3.7 Hypothesis Testing and Predictiveness

Before assessing the structural model, validation of the measurement model should indicate a satisfactory quality. Next, the structural model considers the relationship between the latent variables within the internal structure and emphasises gaining knowledge of the predictiveness capabilities of the structural model (Sarstedt et al., 2017). After checking for collinearity among latent variables, the following criteria should assess the model: path coefficient, coefficient of determination (R^2), effect size (f^2), and cross-validated redundancy Q^2 (Hair et al., 2014).

3.7.1 Path Coefficients

The path coefficient linkage between the inner model latent variables and the PLS-SEM is construed as the standardised beta (β) coefficients of the ordinary least squares regression. It predicts the hypothesis degree or strength between variables of the inner model (Hair et al., 2014; Sarstedt et al., 2017). First, the t-test must determine whether the association between constructs is significant or insignificant. On the other hand, most researchers prefer using the p-values to determine the significance level (Henseler et al., 2009; Hair et al., 2014; Sarstedt et al., 2017).

3.7.2 Collinearity and Multicollinearity

Before calculating the path coefficients, scholars must determine the multicollinearity problems of the inner model so that the regression analysis results are unbiased. For example, multicollinearity will be problematic if the endogenous latent variables are correlated in the regression model since they should be independent. Furthermore, multicollinearity can cause problems when interpreting the results (Hair et al., 2014). Diagnostic tools that can support evaluating the presence of multicollinearity are the Tolerance Factor and the Variance Inflation Factor. If the tolerance factor is < 0.1 , multicollinearity problems exist in the data set. On the other hand, if variance inflation factor > 5 would indicate that one or two endogenous latent variables are highly correlated in the regression model (Sarstedt et al., 2017). Furthermore, according to Hair et al. (2018), an appropriate value of variance inflation factor is if it is less than 3, but variance inflation factors values between 3 to 5 indicate potential collinearity problems.

3.7.3 Coefficient of Determination (R^2)

A criterion utilised to evaluate the structural model is the Coefficient of Determination (R^2), which is the combined result of all exogenous latent constructs on the endogenous latent constructs of the inner path

model structure, describing the variances of the endogenous latent constructs. The measure of the predictive accuracy R^2 varies between 0 and 1. Thus, complete predictive accuracy is if $R^2 = 1$ (Hair et al., 2014). Hair et al. (2014) also propose that the researcher utilise the rule of thumb built on the following measures to determine the levels of predictive accuracy. Thus, if $R^2 \geq 0.75$, then it is substantial, $0.50 \leq R^2 < 0.75$, then it is reasonable, and $R^2 < 0.25$, then it is weak. However, Chin (1998) suggests the following criteria levels of predictive accuracy values if $R^2 \geq 0.67$, then it is substantial. If $0.333 \leq R^2 < 0.67$, then it is moderate, and if $R^2 < 0.19$, it is weak. Sarstedt et al. (2017) recommend that $R^2 \geq 0.10$ is satisfactory depending on the research framework utilised.

3.7.4 Effect Size (f^2)

Once the coefficient of determination (R^2) has been calculated for all exogenous latent variables, the next step is to determine Cohen's (1998) effect size (f^2). The f^2 can be utilised to determine how the exogenous latent constructs impact the endogenous latent constructs. Continuing the processes by eliminating an exogenous construct will help researchers to evaluate the amount an exogenous construct provides to an endogenous variable and the R^2 value (Hair et al., 2014; Sarstedt et al., 2017; Wong, 2019)

Cohen (1988) suggests omitting an exogenous latent variable from the model structure. For example, if f^2 takes values of 0.35, 0.15, and 0.02, the effect size can be classified as significant, medium and small effects on the exogenous construct, respectively.

3.7.5 Cross-Validated Redundancy (Q^2)

An alternative method to evaluate the inner model predictive significance of the endogenous constructs is to calculate the cross-validated redundancy (Q^2), developed by Stone and Geisser (1975). This measure utilises the blindfolding technique, which firstly removes part of the data matrix single points to approximate the inner model parameters of the removed items. Then secondly, predict the amount of the removed items using these approximations. These processes are carried out until all data points have been saturated.

If $Q^2 < 0$, then this would indicate that there exists a lack of predictive significance. Otherwise, there would be sufficient evidence that the inner model does have predictive significance and the observed items are well constructed.

3.8 Hierarchical Component Model or Higher-Order Constructs

The researcher can model a construct of higher-order components as an abstract dimension to lower-order components of more concrete dimensions (Sarstedt, Hair, Cheah, Becker, & Ringle, 2019). Higher-order

components permit more theoretical prudence, reducing the model's intricacy. For example, entrepreneurial orientation is an abstract of higher dimensions consisting of innovation, risk-taking, and proactiveness sub-dimensions. The lower-order components and several items measure each sub-dimension.

Different approaches can indicate approximate higher-order components utilising PLS-SEM in the extant literature. The disjoint two-stage process will first only consider the lower-order components without including the higher-order components, which are theoretically related to the other latent variables in the inner model. Then, the researcher will save the latent variables of the lower-order components, which will then be utilised as the items of the higher-order components to estimate the model. The previous example of entrepreneurial orientation shows that a higher-order component will have three items innovation, risk-taking and proactiveness. The second stage utilises multi-items. Thus, the criteria of section 3.7 can be used to evaluate the structural model disjoint two-stage results.

3.9 Mediation and Moderating Effects

In this section, clarifying the differences between moderation and mediation is imperative, and the practicality of these variables can contribute to the study. In research, many researchers only focus on the direct impact on two variables and ignore the mediating or moderating effects of other variables, leading to misinterpretation of results. Introducing a third variable into a model could account for the exogenous variables mediating or moderating effect on the endogenous variable. However, introducing mediator variables into the model, the framework of the mediation relationships must be based on sound theoretical foundations. In addition, the model should adhere to all validity and reliability criteria. Mediator's research questions establish how and why variables produce or predict an outcome variable. On the other hand, moderators select questions “when” or “for whom” or “under what circumstances” does the predictor relates to an outcome variable which will increase the strengths or alter the direction of the relationship concerning endogenous and exogenous variables when introduced into the model (Frazier et al., 2004; Andersson et al., 2014).

3.9.1 The Market Capability and Infrastructure and Technology Mediation Role.

MacKinnon et al. (2007) define mediating effect (indirect effect or mediation) as how a third variable's intermediate role affects the other two variables' relationship. On the other hand, Preacher and Hayes (2008) define mediation as how an exogenous variable affects the endogenous variable via a mediator based on theoretical grounds. Therefore, the mediation effects of the model must be tested by considering the total effects which are affected by both the indirect and the direct effects (Moqbel, Guduru, & Harun,

2020). According to Moqbel et al. (2020), if there is no connection between the endogenous and exogenous variables, PLS-SEM bootstrapping resampling techniques would improve the understanding of these relationships.

Mediation effects can be classified as complete, partial or no mediation. When the indirect effect is significant and the direct effect is insignificant, full (complete) mediation occurs. For example, the effects of two variables, such as $X \Rightarrow Y$, are entirely or wholly transmitted with the assistance of another variable (Zhao et al., 2010; Nitzl et al., 2016; Moqbel et al., 2020).

When indirect and direct effects are significant, this implies that partial mediation occurs. Two subcategories of partial mediation are competitive and complementary mediation. The indirect and direct signs are the same in complementary partial mediation. Alternatively, competitive partial mediation, the indirect and direct, has different signs. Direct-only non-mediation occurs when the indirect effect is insignificant, and the direct effect is significant. Finally, there will be no mediation when the indirect effect is insignificant (Zhao et al., 2010; Nitzl et al., 2016).

According to Nitzl et al. (2016), the following guidelines test PLS mediating effects. Firstly the indirect impact significance must be tested, which assists the researcher in understanding all the information about the mediating variable. This is because the mediation effect can only be recognised if the indirect impact is significant. Secondly, the mediation magnitude determines the strengths of the indirect effects. Thirdly bootstrapping in PLS can be utilised to determine the path coefficient, t-values and the p-values to test whether or not the indirect impact is significant or insignificant. The final step is to explain the type of mediation, complete or partial.

According to Preacher and Hayes (2008), there is a clear need for multiple mediators in research that can be used to investigate indirect processes. The author suggests that a bootstrapping resampling technique is utilised when several mediators are in the model, and Smart PLS vers3 can achieve this. Also, the guidelines recommended by Nitzl et al. (2016) test the relationship between variables' significance using the two-tail t-test and the p- values at a 5% significance level.

Preacher and Hayes (2008) and Cepeda-Carrion and Nitzl (2018) include the bias-corrected bootstrap confidence interval (CI) as an additional criterion to test the indirect effect significance. The indirect is significant if the bias-corrected bootstrap confidence interval is not zero.

This research study investigates multiple mediators between market capability, infrastructure, and technology, which mediates the relationship between entrepreneurial orientation and SME growth and development.

3.9.2 Human Capital Knowledge and Skills Moderation Role.

According to Cacciolatti and Lee (2016), only a few research articles have utilised PLS to investigate the moderating effect on exogenous and endogenous variables. A moderator variable is a third variable that interacts with an exogenous variable to affect the relationship between exogenous and endogenous variables by either strengthening or changing the direction of the relationship between these variables. A moderator is usually introduced when a weak or inconsistent relationship exists between exogenous and endogenous variables. When a relationship holds in one situation or subpopulation but not for another, moderator variables must not be introduced into a model to present a moderator variable (Frazier et al., 2004; Andersson et al., 2014; Fassott et al., 2016). However, the introduction of a moderator variable must be based on relevant theoretical concepts and arguments as to how the moderator variable will improve the results under investigation instead of statistical significance. However, moderator variables can test new theoretical insights (Andersson et al., 2014; Memon et al., 2019).

Memon et al. (2019) provide seven guidelines for moderation analysis. These guidelines are given by “(a) *How to identify potential moderators*, (b) *Difference between simple moderation analysis and multi-group analysis (MGA)*, (c) *When to use a moderating variable*, (d) *How to conceptualize/hypothesize a moderating relationship*, (e) *Approaches* (f) *Pre-analysis guidelines*, and (g) *Analyzing and reporting of moderation effects.*”

When investigating moderator effects on the relationship between exogenous and endogenous constructs utilising Smart PLS vers3, the Product-Indicator approach is usually used when the model has reflective items. In the product indicator approach, each exogenous item is multiplied by each item of the moderator variable. However, one disadvantage is that both the product indicator approach can yield collinearity in the structural model (Andersson & Nielsen, 2014; Fassott et al., 2016; Becker et al., 2018; Memon et al., 2019). In addition, compare if the coefficient of determination (R^2) has changed from the original model, which does not have a moderator variable, to the model when the moderator variable is added (Ramayah, Cheah, Chauh, Ting, & Memon, 2018).

3.10 Limitations

The study of SME growth and development is vast and cuts across many disciplines; thus, studying the constraints of SME growth and development is only part of the broader concept of SME growth and development. In addition, due to time constraints, it was impossible to include all the determinants in this study; hence, it focused on the key variables. Another limitation was that there is no clear definition of SME globally, affecting the measurement values. There was little or no research on SME growth and

development determinants in the Northern Cape Province. The vastness of the Northern Cape Province and the small population made it difficult to interact with all respondents personally.

The cross-sectional research design has limitations that need addressing in future research studies. First, this research was conducted in the Northern Cape Province, which restricts the generalisation of the findings to the Northern Cape Province. Therefore, inferences cannot be generalised to the rest of South Africa or globally. In addition, the COVID-19 pandemic might have impacted the study outcomes. Second, the study has not tested the effects of the control variables such as the company age, the gender of managers or owners, and whether the SME receive grants or does business with the Northern Cape Province Government. Third, the survey data were distributed and collected via email, which usually led to a low response rate.

3.11 Ethical considerations

Permission was granted to the researcher by the IEDS Programme's Chief Director at the Department of Economic Development and Tourism-Northern Cape to access and use SMEs in the Northern Cape Province database to draw the sample and collect the data. Additionally, the Chief Director of the IEDS Programme at the Department of Economic Development and Tourism-Northern Cape contacted SMEs and explained to the managers and/or owners of the SMEs the study objective and reasons why they should participate in the study. The 175 questionnaires were e-mailed to all randomly sampled SMEs. The Department of Economic Development and Tourism-Northern Cape also contributed to the questionnaire and testing by providing input. This study adhered to academic research ethical norms, and the institution received approval for the ethical considerations.

Furthermore, the respondents were contacted and informed before regarding the research intention and nature, ensuring that they understood that their participation would be voluntary and that any information provided in the survey would remain confidential. Additionally, respondents were promised that their data would be utilised solely for academic research reasons and optional participation. Finally, the participants were told their names would not appear in any research findings.

CHAPTER 4: RESEARCH FINDINGS

4.0 Introduction

The analysis of data collected from the 128 SMEs in the Northern Cape Province will be discussed in this chapter. Firstly, a descriptive analysis of the respondents will be specified, highlighting the salient findings of relationships between the variables of the 128 SMEs sampled in the survey. This analysis will use an Excel, IBM-SPSS statistical tool to describe and summarise the data. Secondly, the measurement and structural model will be analysed according to the PLS-SEM by adopting Smart PLS-SEM 3 software. The software has an advantage since the analysis of the measurement model and structural model were done simultaneously. The software can explore multifaceted models with many items and latent variables. The measurement model assessment determines the reliability and validity of the model, whilst the structural model establishes the predictive capacity and significance of the link between exogenous and endogenous constructs. Finally, the mediation and moderation variables will be explored, and the findings of the chapter will be summarised in a conclusion

4.1 Response Rate

Descriptive statistics summarise the sample data, enabling the researcher to describe the data using different measures and visual analysis to create a profile of the respondents. Therefore, the first step of quantitative research is to carry out descriptive statistics before inferential statistics. One hundred and seventy-five (175) managers and/or owners of the SMEs in the Northern Cape Province received the questionnaires via e-mail. The researcher received back 128 questionnaires resulting in a 73.14% response rate. The 128 questionnaires returned were utilised in the analysis.

Table 2: Response Rate Results.

Northern Cape Province Districts	Frequency	Percentage
Francis Baard	66	51.6%
John Taolo Gaetsewe	27	21.1%
Namaqua	13	10.2%
Pixley ka Seme	14	10.9%
ZF Mgcawu	8	6.3%
Total	128	100.0%

Source: Survey Data (2021)

Table 2 represents the response rates of each district in the Northern Cape Province. For example, Francis Baard's response rate was 51.6% since most SMEs are in the Francis Baard district. Although ZF Mgcawu has a similar number of SMEs as the other four districts, ZF Mgcawu has the lowest response rate of 6.3%.

4.2 Demographic Information of Respondents

The respondents were requested for their age, gender, and educational qualification, and the results are provided below.

4.2.1 Age of the Respondents

The cross-tabulation of the SMEs owners or managers ages who completed the questionnaire is shown in Table 3. Among the 128 SMEs, there was an equal distribution of males (50%) and females (50%), of which 27 (21.09%) of the respondents were youth. Also, most participants (78.91%) were over 40 years, signifying that most SMEs in the Northern Cape Province are at a mature age of 40 years and older.

Table 3: Cross-Tabulation of the Owner/Managers' Age per Gender

Age	18-25	25 – 35	36 – 40	40-45	46-50	> 51	Total
Male	2	14	9	18	13	8	64
Female	2	9	9	14	12	18	64
Total	4	23	18	32	25	26	128

Source: Survey Data (2021)

4.2.2 Number of Shareholders per SME

Figure 6 below depicts the number of shareholders per SME. The vast majority of SMEs, that is, 96 (75%) have only one shareholder, whereas 14 (10.94%) have two shareholders, and lastly, 8 (6.25%) have three shareholders. Of the 96 SMEs, 27 (28.12%) are male, and 69 (71.88%) are female-owned. Of the 128 SMEs that responded, 28 (21.87%) do not have any women shareholders, and 100 (78.13%) have one or more female shareholders.

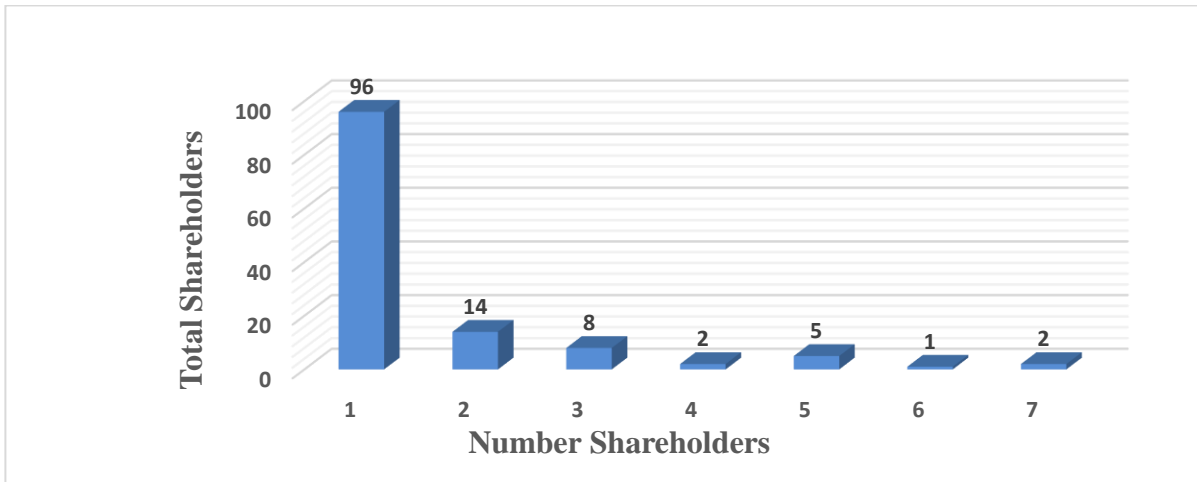


Figure 5: Shareholders Numbers per SME

Source: Survey Data (2021)

4.2.3 The industry Classification of SMEs

The pie chart illustrates the percentage breakdown of SMEs in the different industries in Figure 7. A total of 19% of SMEs are in the primary sector, namely Mining (7%) and Agriculture (12%). Although the bulk of the SMEs is in the tertiary sector (72%) however, there are very few SMEs in the industries such as Financial and Business Services (2%), ICT (6%), Creative Industries (2%) and Tourism (5%). For example, these industries are critical to developing the knowledge economy. In addition, tourism is vital to creating jobs and the social-economic growth and sustainable development of the Northern Cape Province. The dominant industry is trade and accommodation (20%). However, the secondary sector has only 9% of the SMEs related to manufacturing. The lack of manufacturing products is a key challenge as value addition depends on the secondary sector to improve SME growth and development in Local, National and International markets.

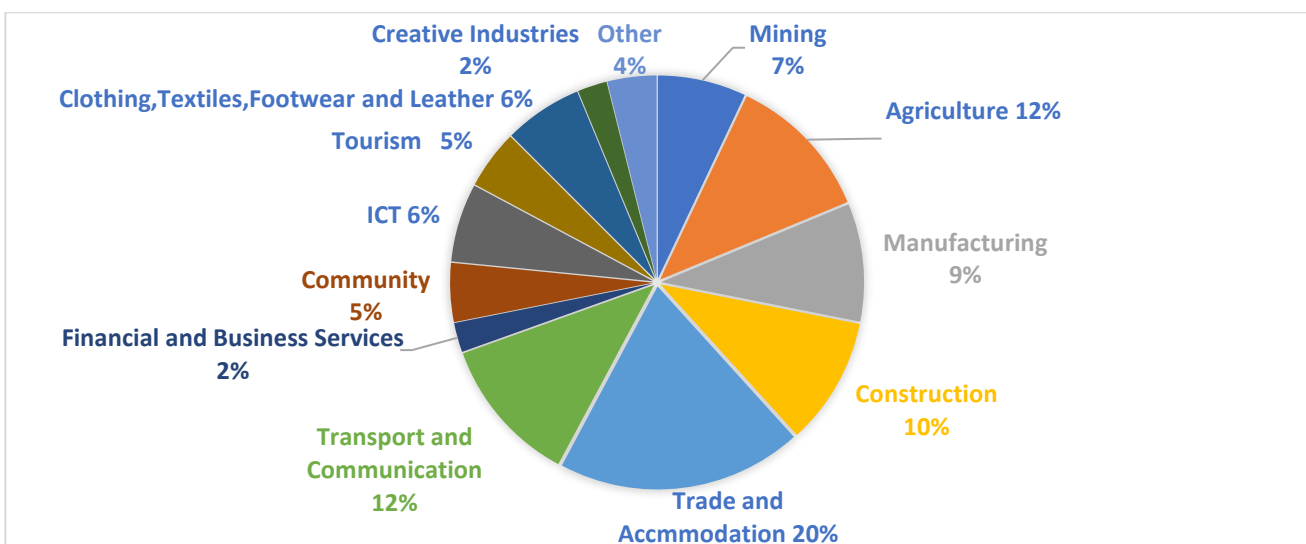


Figure 6: Industry Classification of SMEs

Source: Survey Data (2021)

4.2.4 Job Creation and Age of SMEs

The SME respondents employ 660 employees, 5.16 employees per entity on average. Approximately 89 (69.53%) of the SMEs hire between 0 to 5 staff, and 21 (16.41%) employ between 6 to 10 staff, whereas 18 (14.06%) employ more than ten staff. SMEs created 685 permanent jobs before the COVID-19 pandemic, an average of 5.27 employees per SME. SMEs also created 388 temporary jobs, an average of 3.03 per SME. Additionally, the majority of SMEs, 57 (44.53%), were between 0 - 5 years, 42 (32.81%) were between 6 - 10 years, and 29 (22,66%) were older than ten years.

4.2.5 Manager or Owner of SMMEs Educational Level

The educational level of the SME manager and/or owner is illustrated in Figure 8 below. In addition to the educational levels, more than 48 (37.50%) SMEs have not participated in any business management courses. However, 80 (62.50%) SMEs attended one or more training in business management. Most SMEs wish to improve their skills in the financial side of the business, business management courses, and ICT, such as computer courses and technology skills.

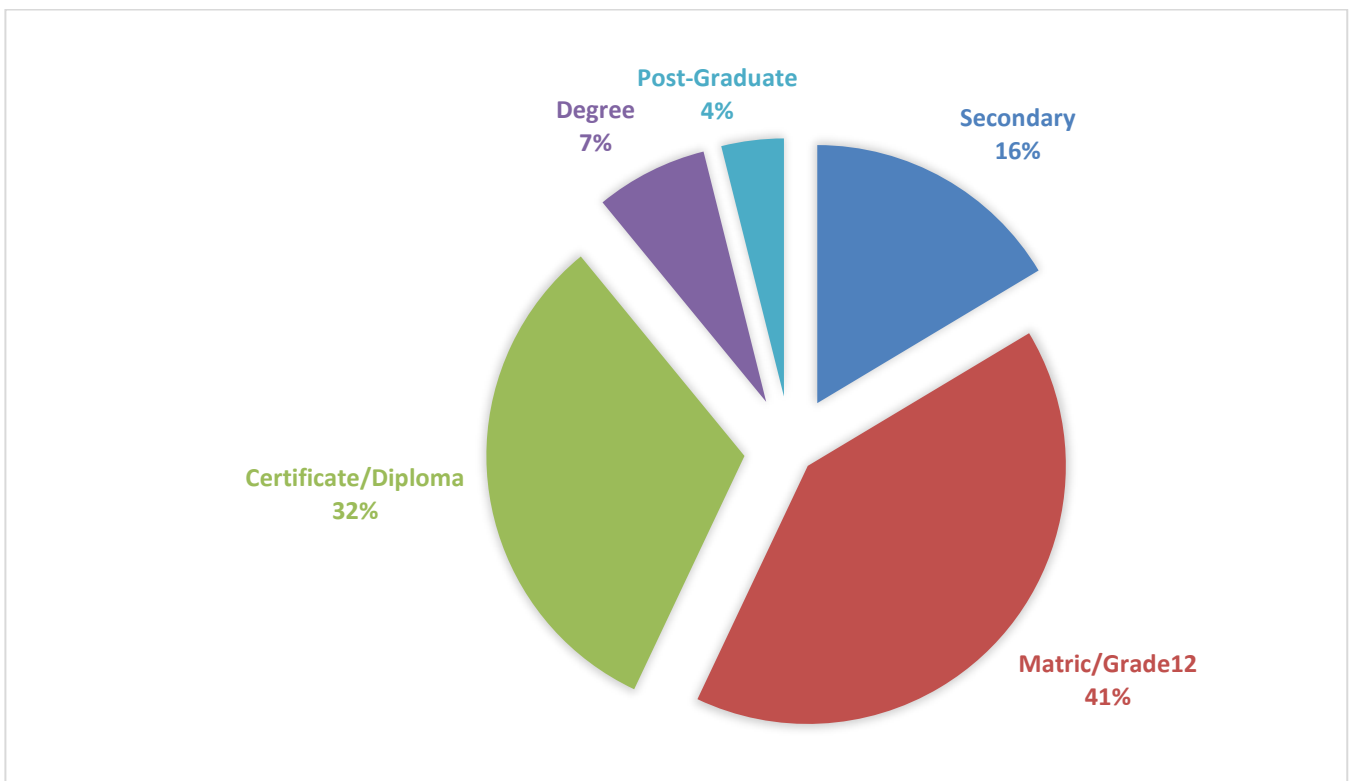


Figure 7: Educational level of the Manager and/or Owner of SMMEs

Source: Survey Data (2021)

4.2.6 Percentage of Growth in Sales

Figure 9 below represents the percentage growth in sales. Only 64 (50%) of the SMEs achieved a growth in sales between 0% - 5%, whereas the other 50% achieved an increase of more than 5%.

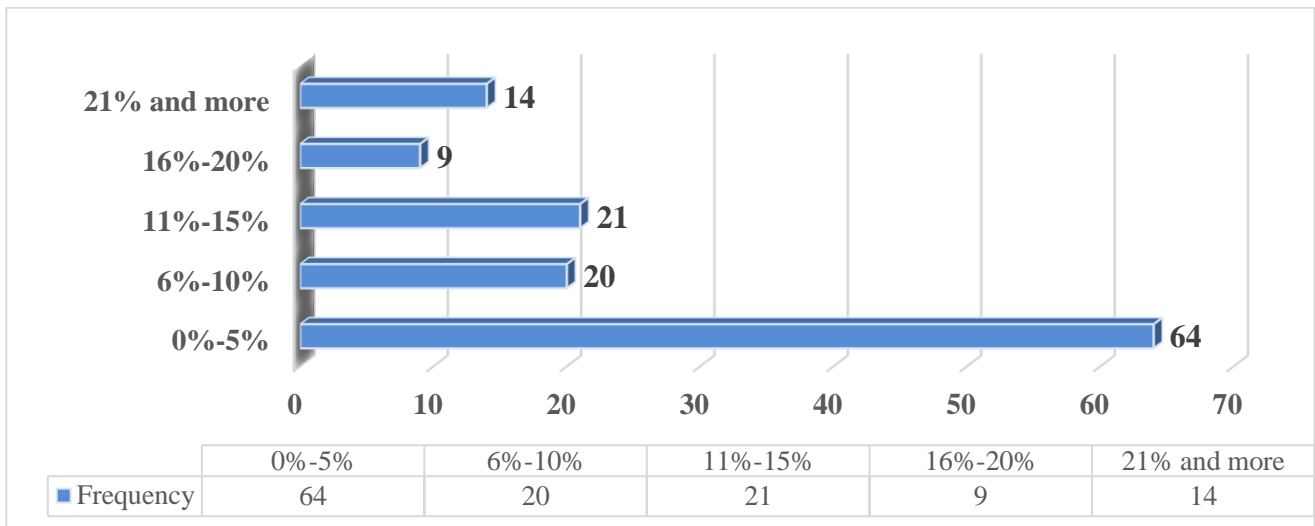


Figure 8: Percentage Growth in Sales

Source: Survey Data (2021)

4.2.7 Percentage of Net Profit

Figure 10 below illustrates the percentage growth in sales in the last three years. Approximately 35 (27.34%) SMEs made no net profit, 17 (13.28%) below 1%, whereas 43 (33.59%) made a net-profit between 2% and 5%, 23 (17.97%) made a net profit between 5% and 10% and lastly 10 (7.81%) made a net profit of above 10%. Although a third of the SMEs made a net profit of between 2% - 5%, 17 SMEs made no profit, indicating that SMEs in the Northern Cape Province will have difficulty expanding and continuing operations in the future. Therefore, the public and private sectors should look at how they could assist SMEs in the Northern Cape Province to improve their turnover and profits, which will assist them in the value addition of goods and services. In addition, one major problem encountered by SMEs is that they do not have proper record keeping and financial control mechanisms electronic media to monitor and evaluate the management accounts regularly.

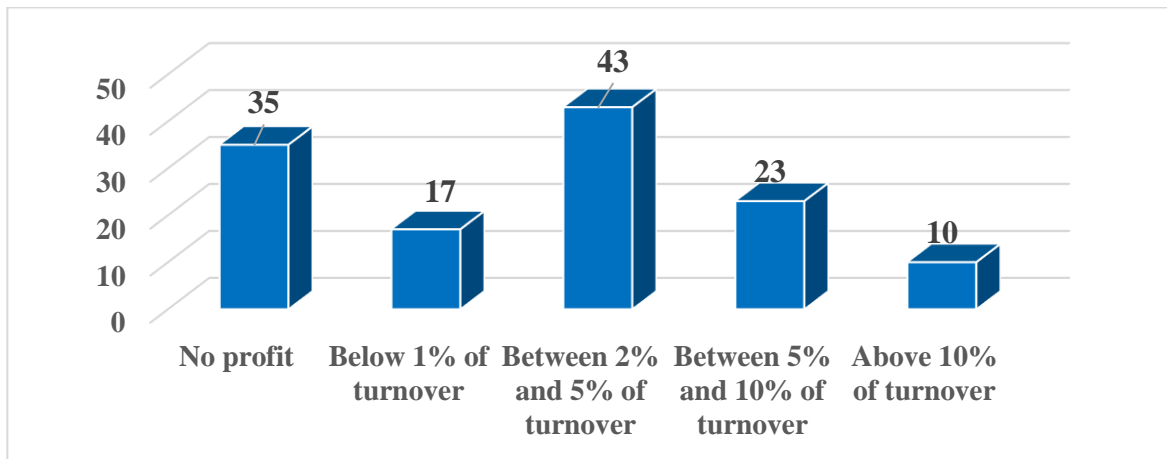


Figure 9: Percentage of net profit over the last three years

Source: Survey Data (2021)

4.2.8 Marketing Strategy and Plans

From a marketing point of view, 50 (39.06%) of the SMEs do not have a marketing strategy or a marketing plan, and 116 (90.63%) of SMEs' goods and services are sold in the Local and National Markets. Only 12 (9.37%) export their goods and services to other countries, which is an existing opportunity for SMEs in the Northern Cape Province to explore and improve growth and sustainable development in the future. A total of 82 (64.06%) SMEs use advertisements for marketing their goods and services, and 46 (35.94%) do not advertise. In addition, only 63 (49.22%) use print media for advertising products, and 51 (39.84%) advertise products and services via digital media.

4.2.9 Infrastructure and Technology

Although most SMEs, 99 (77.34%), have access to water, 94 (73.44%) have access to electricity. However, a significant constraint for SME growth and development is the physical infrastructure and land access to carry out their operations. Only 31 (24.22%) have the physical infrastructure to carry out SME operations, and 24 (18.75%) have access to land for expanding the SME operations.

4.3 Reliability and Validity Test Results

Evaluating the measurement model indicates the reliability and validity of the latent constructs represented by the items. Factor loadings are the first criteria to determine the measurement model's quality, followed by internal consistency, convergent, and discriminant validity. Thus, the measurement model will be assessed using PLS-SEM as Sarstedt et al. (2019) proposed a disjoint two-stage process approach. Firstly Smart PLS 3 software would be used to run a PLS algorithm to evaluate the measurement model, and secondly, 5000 resampling bootstrapping technique would be run to assess the structural model.

Table 4 indicates the results of the higher-order components or latent variables indicators, outer loadings, Cronbach's Alpha (α), Rho- ρ , convergent validity, and average variance extraction, which satisfy all the criteria for the measurement model. On the other hand, figure 13 illustrates the outer loadings and the path coefficient of the measurement and structural models.

Table 4: Results of Measurement Model for Indicator Reliability, Internal Consistency Reliability and Convergent Validity.

Higher-Order Constructs or Latent Variables.	Items or Indicators	Outer Loadings	Cronbach's Alpha (α)	Rho- ρ	CR	AVE
SME Growth and Development.	SMEGD1	0.720	0.778	0.789	0.858	0.603
	SMEGD2	0.708				
	SMEGD3	0.796				
	SMEGD4	0.871				
Entrepreneurial Orientation.	EOINV	0.824	0.707	0.718	0.835	0.628
	EOP	0.753				
	EORT	0.798				
Human Capital.	HC1	0.877	0.764	0.785	0.833	0.558
	HC2	0.711				
	HC3	0.728				
	HC4	0.653				
Marketing Capability.	MC1	0.787	0.828	0.857	0.884	0.656
	MC2	0.899				
	MC3	0.799				
	MC4	0.749				
Infrastructure and Technology.	INFT1	0.811	0.759	0.761	0.861	0.674
	INFT2	0.784				
	INFT3	0.866				

Source: Researcher Calculations using Smart PLS 3 Software.

4.3.1 Indicator Reliability (IR)

Table 4 and Figure 11 below indicate that all the factor loadings are more than 0.7 except item HC4 = 0.653. Thus, 17 latent variables explain 50% of the item variance, indicating a satisfactory degree of indicator reliability. Only one indicator is less than 0.700 but can be accepted. It is unnecessary to delete ICT4 since deleting the ICT4 item decreases the convergent validity and average variance extraction and affects the significance of the relationship between ICT and SME growth and development. The indicator reliability ranged between 0.653 and 0.899.

In the current study, items were eliminated from the outer model so that the outer loadings were reliable. Since all outer loadings are more significant than 0.600 (see Table 4 and Figure 11), this indicates that the indicator reliability criteria are acceptable for this research. Not all questionnaire questions were utilised for the structural and measurement model items.

The structural and measurement models included indicators built on theory and the theoretical framework or conceptual model. The Chief Director of IEDS of DEDaT requested some questions to be added to the questionnaire which was not part of the theoretical model. The additional questions were included in the model but were employed in the descriptive analysis. Outer loadings below 0.400 were removed if the removal did not impact average variance extraction or decrease internal consistency reliability.

4.3.2 Internal Consistency Reliability

Table 4 indicates that Cronbach's Alpha (α) > 0.700 for all constructs. However, Cronbach's Alpha underestimates the internal consistency reliability, and the convergency reliability is too liberal. Thus, we use $\rho > 0.700$ as an additional criterion to verify internal consistency reliability. Table 4 indicates that all latent variables of the inner model range between $0.718 \leq \rho \leq 0.857$, hence $\rho > 0.700$ for all constructs. In addition, Cronbach's Alpha fluctuated between 0.707 and 0.828, and the convergency reliability range was between 0.833 and 0.884. Thus, all three criteria are satisfied, signifying that this research meets internal consistency reliability criteria.

4.3.3 Convergent Validity (CV)

An adequate level is average variance extraction (AVE) ≥ 0.5 , which implies a lowest of 50% of the variance of its indicators (Hair et al., 2018). Latent variables of average variance extraction vary between 0.558 to 0.674, which implies that all constructs have an AVE ≥ 0.500 . Thus, this study satisfies the criteria for convergent validity.

4.3.4 Discriminant Validity

The discriminant validity is evaluated in this study by utilising two approaches, the Fornell and Larcker and the cross-loading criteria. However, an additional process was necessary since Fornell and Larcker's measures were unreliable in detecting discriminant validity. Therefore, this study included a different methodology to validate the discriminant validity. In addition, the Heterotrait-Monotrait ratio of correlations was included in this study to authenticate discriminate validity. The Fornell-Larcker results, in bold and italics, are illustrated on the left-hand side of Table 5. The bold and italic values are all greater than the correlations below them. Thus, the Fornell and Larcker criteria satisfy the discriminant validity. In addition, the cross-loadings criteria are also met (see Table 6).

The Heterotrait-Monotrait ratio of correlations is on the right-hand side of Table 5. This is because none of the Heterotrait-Monotrait ratios of correlations (HTMT) > 0.9 , as shown in Table 5; hence the Heterotrait-Monotrait ratio correlations are satisfied.

Table 5: Discriminant Validity

	Fornell-Larcker Criterion					Heterotrait-Monotrait Ratio of Correlations				
	SMEGD	EO	HC	MC	INFT	SMEGD	EO	HC	MC	INFT
SMEGD	0.776									
EO	0.230	0.792				0.341				
HC	0.233	0.34	0.747			0.247	0.465			
MC	0.256	0.299	0.173	0.810		0.316	0.384	0.266		
INFT	-0.041	0.359	0.498	0.289	0.821	0.186	0.481	0.702	0.401	

Source: Researcher Calculations using Smart PLS 3 software.

4.3.5 Cross Loadings

Table 6 indicates that the item cross-loadings also assist the discriminant validity assessment. The bold values (see Table 6) are the most significant in the matrix compared to the values of the top and bottom of the rows and the left and right of the columns, respectively. All three criteria are satisfied, implying that the research can conclude that discriminant validity holds. The measurement model results above indicate total validity and reliability, including indicator reliability (IR), internal consistency reliability (ICR), convergent validity (CV), and discriminant validity.

Table 6: Item Cross Loading.

Item	SMEGD	EO	HC	MC	INFT
SMEDG2	0.720	0.204	0.234	0.189	0.082
SMEGD1	0.708	0.326	0.135	0.331	0.083
SMEGD3	0.796	0.056	0.181	0.154	-0.124
SMEGD6	0.871	0.124	0.188	0.118	-0.145
EOINV	0.327	0.824	0.275	0.211	0.205
EOP	0.025	0.753	0.186	0.233	0.281
EORT	0.172	0.799	0.325	0.264	0.358
HC1	0.232	0.339	0.877	0.209	0.499
HC2	0.044	0.281	0.711	0.182	0.517
HC3	0.090	0.339	0.728	0.170	0.474
HC4	0.185	0.116	0.653	0.005	0.155
MC1	0.215	0.272	0.124	0.787	0.097
MC2	0.302	0.254	0.189	0.899	0.206
MC3	0.169	0.205	0.083	0.799	0.289
MC4	0.093	0.232	0.154	0.749	0.432
INFT1	-0.102	0.317	0.422	0.189	0.811
INFT2	-0.034	0.279	0.395	0.216	0.784
INFT3	0.048	0.285	0.406	0.315	0.866

Source: Researcher Calculations using Smart PLS 3 software

4.4 Hypothesis Testing and Predictiveness

The quality of the measurement model is satisfactory, which is a precondition before the structural model can be assessed. The structural model assessment includes testing for collinearity among constructs, coefficient of determination (R^2), effects size (f^2), cross-validated redundancy (Q^2), and path coefficients which assist in the hypothesis testing (Hair et al., 2014). This research used Smart PLS-SEM 3 to run a bootstrapping of 5000 resampling to generate a 95% two-tail t-test and confidence intervals to achieve the structural model assessment results.

4.4.1 Collinearity and Multicollinearity

Table 7 represents the vector inflation factor (VIF). The assessment criteria of multicollinearity utilise the vector inflation factor statistic. If $VIF < 3$, this is ideal (Hair et al., 2018). The vector inflation factor (VIF) of the outer model for this research ranged from 1.082 to 2.669 (see Table 7), which is below the recommended ideal critical value of 3. The inner model's vector inflation factor (VIF) ranged between 1.165 and 1.420. Therefore, this study shows an excellent correlation among the items and constructs that will not impact the investigation results.

Table 7: Multicollinearity Statistics for indicators (VIF) of Outer and Inner Model

Higher-Order Constructs or Latent Variables.	Items or Indicators	VIF Outer Model	VIF Inner Model
SME Growth and Development.	SMEGD1	1.455	1.390
	SMEGD2	1.318	
	SMEGD3	2.314	
	SMEGD4	2.669	
Entrepreneurial Orientation.	EOINV	1.565	1.420
	EOP	1.452	
	EORT	1.270	
Human Capital.	HC1	2.075	1.165
	HC2	2.370	
	HC3	2.199	
	HC4	1.082	
Marketing Capability.	MC1	1.937	1.461
	MC2	2.639	
	MC3	2.826	
	MC4	2.372	
Infrastructure and Technology.	INFT1	1.468	1.218
	INFT2	1.556	
	INFT3	1.953	

Source: Researcher Calculations using Smart PLS 3 software

4.4.2 Coefficient of Determination (R^2)

Although extant literature defines coefficient of determination (R^2) as weak, moderate and substantive, Sarstedt et al. (2017) suggest that an $R^2 \geq 0.100$ is satisfactory depending on the specific research framework. For example, Figure 13 indicates that R^2 of the SME growth and development and infrastructure and technology (INFT) equal 0.295 and 0.129, respectively, indicating that these measures are satisfactory. However, the R^2 of market capability equals 0.089, which is less than 0.100, which implies that it is not significant in this model. However, the endogenous variables, namely entrepreneurial orientation (EO), human capital (HC), market capability (MC) and infrastructure and technology (INFT), predict 29.5% of the exogenous variable SME growth and development (SMEGD) (see Figure 13). On the other hand, entrepreneurial orientation indicates a level of prediction of 12,9% of infrastructure and technology and 8.9% of market capability.

4.4.3 Effect Size (f^2)

Cohen (1988) suggests omitting an exogenous latent variable from the model structure. For example, the classification of the effect size is as follows if $f^2 \leq 0.02$, then the effect is small; if $f^2 \leq 0.0.15$, then the effect is medium 0.15, and if $f^2 \leq 0.45$, then the effect is significant on the exogenous construct. For this study, f^2 ranged between 0.049 and 0.159 (see Table 11), which means the effect size has a small considerable impact.

4.4.4 Cross-Validated Redundancy (Q^2)

If the value of cross-validated redundancy (Q^2) > 0 , it would be sufficient evidence that the inner model does have predictive significance and the observed items are well constructed. The Q^2 is calculated by using the Blindfolding method of Smart PLS 3. In Table 11, Q^2 values are all positive. Thus, this study achieved predictive relevance.

Table 8: Effects Size (f^2) and Cross Validated Redundancy (Q^2)

	F^2			Cross Validated Redundancy				R^2
	SMEGD	MC	INFT	SSO	SSE	$Q^2 (=1 - SSE/SSO)$		
EO	0.090	0.098	0.148	SMEGD	512.000	435.327	0.150	0.295
HC	0.124			MC	512.000	485.302	0.052	0.089
MC	0.049			INFT	384.000	354.386	0.077	0.129
INFT	0.089							
EO*HC	0.159							

Source: Researcher Calculations using Smart PLS 3 software.

4.4.5 Path Coefficients (β) and t-Statistics (t).

In this study, the β coefficients and t-statistics will be analysed to establish the hypothesised association between the latent constructs justifying this study's research questions and objectives. First, the conceptual model hypothesis was tested by running a 5000 bootstrapping resampling technique utilising Smart PLS vers3 software to observe the association among the constructs and determine the path coefficients β . Table 9 and Figure 11 illustrate the structural model analysis results of the bootstrapping technique based on a two-tail t-test at the 5% significance level. Next, the Smart PLS vers3 bootstrapping results of Table 9 and Figure 11 were utilised to determine whether or not the relationship between exogenous and endogenous constructs is significant at the 5% significance level. The following section will discuss the direct effects of the exogenous constructs on the endogenous constructs (see Table 9).

Table 9: Hypothesis Testing and Predictiveness Analysis Outcomes

Hypothesis	Paths (Direct Effects)	Path Coefficient (β)	Standard Error (e)	T Statistics (t-value)	P Values (p)	Decision
H ₁	EO => SMEGD	0.296	0.100	2.962	0.003	Significant and Supported
H ₂	EO =>MC	0.299	0.089	3.343	0.001	Significant and Supported
H ₃	EO => INFT	0.359	0.092	3.918	0.000	Significant and Supported
H ₄	HC =>SMEGD	0.353	0.126	2.810	0.005	Significant and Supported
H ₅	MC =>SMEGD	0.200	0.093	2.148	0.032	Significant and Supported
H ₆	INFT =>SMEGD	-0.302	0.111	2.719	0.006	Significant and Supported

Source: Researcher Calculations using Smart PLS 3 software.

The first hypothesis (H₁) states that entrepreneurial orientation (EO) has an impact on SME growth and development (SMEGD). The Smart PLS 3 bootstrapping results of this research (see Table 9 and Figure 13) indicate that the t-value = 2.962 establishes a substantial relationship between entrepreneurial orientation and SME growth and development. The path coefficient indicates $p = 0.003$, thus $p < 0.05$, showing that H₁ is supported and significant at the 5% significance level. Furthermore, the path coefficient shows that $\beta = 0.296$, which illustrates that SME growth and development will increase by 29.6% for every unit change in entrepreneurial orientation. Therefore, entrepreneurial orientation (EO) as a higher order component and the sub-dimensions of innovation, risk-taking, and proactiveness as a lower order component positively impacts SME growth and development. Furthermore, this study result indicates that entrepreneurial orientation and SME growth and development are directly proportionate. For example, if the levels of entrepreneurial orientation increase, then SME growth and development levels also increase.

The second hypothesis (H₂) states that entrepreneurial orientation has an impact on market capability (EO=>MC). This study Smart PLS 3 bootstrapping results (see Table 9 and Figure 13) indicate that the t-value = 3.343 demonstrates a significant relationship between entrepreneurial orientation and market capability. The path coefficient shows p = 0.001, thus p<0.05, establishing that H₂ is supported and significant at the 5% significance level. Furthermore, the path coefficient specifies that β = 0.299 shows that market capability will increase by 29.9% for every unit change in entrepreneurial orientation. Therefore, entrepreneurial orientation as a higher order component and the sub-dimensions innovation, risk-taking, and proactiveness as a lower order component positively impact (β=0.299) market capability. Furthermore, this study result shows that entrepreneurial orientation and market capability are directly proportionate. For example, if the levels of entrepreneurial orientation increase, then market capability levels also increase.

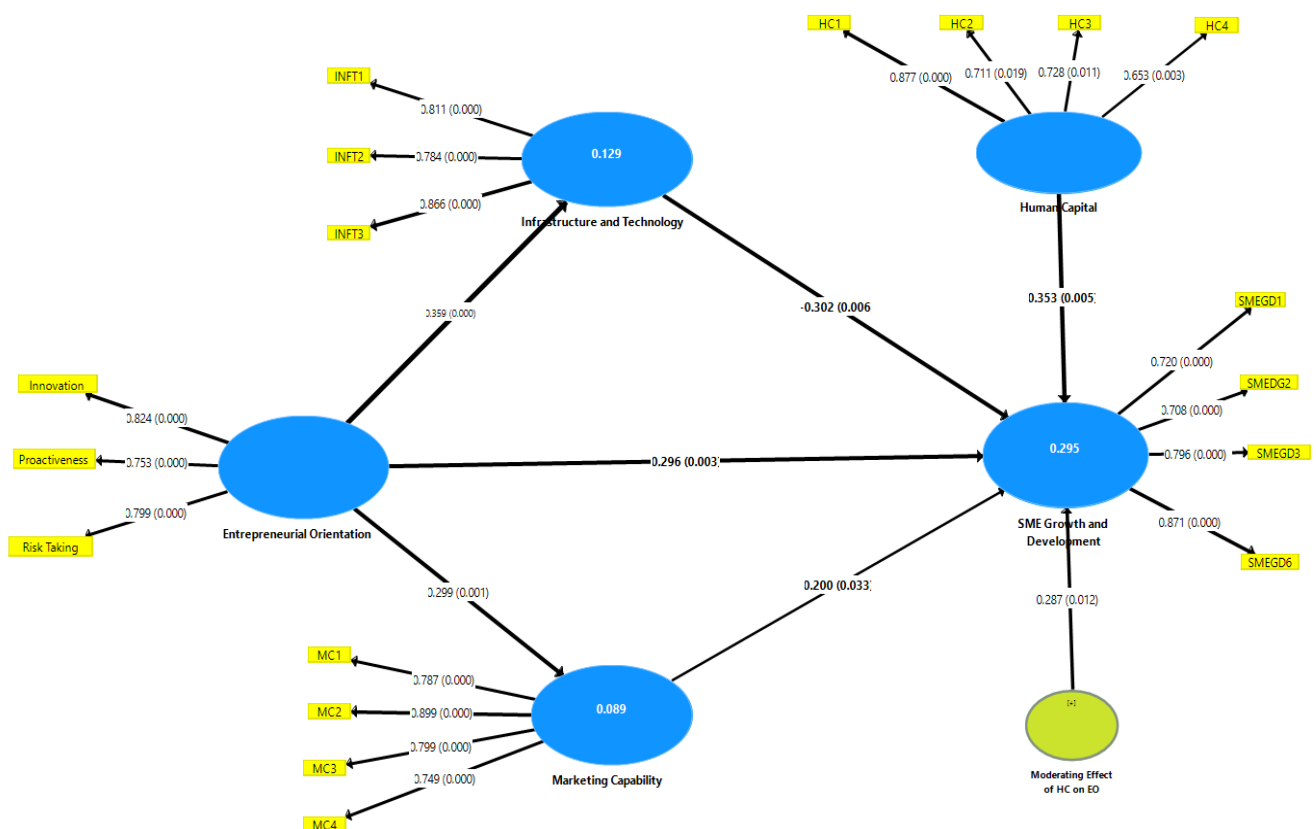


Figure 10: Results of Measurement and Structural Model Estimates

Source: Researcher Calculations using Smart PLS 3 software.

The third hypothesis (H₃) states that entrepreneurial orientation has an impact on infrastructure and technology (EO=>INFT). This study's Smart PLS vers3 bootstrapping results (see Table 9 and Figure 11) indicate that the t-value = 3.918 validates a significant relationship between entrepreneurial orientation and infrastructure and technology. Furthermore, the path coefficient specifies p = 0.000, thus p<0.05, confirming that H₃ is supported and significant at the 5% significance level.

Moreover, the path coefficient shows that $\beta = 0.359$, indicating that infrastructure and technology will increase by 35.9% for every unit change in entrepreneurial technology. Therefore, entrepreneurial orientation as a higher order component and the sub-dimensions innovation, risk-taking, and proactiveness as a lower order component positively impact ($\beta=0.359$) infrastructure and technology. Furthermore, this study result shows that entrepreneurial orientation, infrastructure, and technology are proportionate. For example, if the levels of entrepreneurial orientation increase, then the levels of infrastructure and technology increase as well.

The fourth hypothesis (H_4) states that human capital has an impact on SME growth and development ($HC \Rightarrow SMEGD$). The study Smart PLS vers3 bootstrapping results (see Table 9 and Figure 13) indicate that the t-value = 2.810 validates a significant relationship between human capital and SME growth and development. The path coefficient shows $p = 0.004$, thus $p < 0.05$, establishing that H_4 is supported and significant at the 5% significance level. Furthermore, the path coefficient specifies that $\beta = 0.353$, illustrating that SME growth and development will increase by 35.3% for every unit change in human capital. Therefore, human capital positively impacts ($\beta=0.353$) SME growth and development. Furthermore, this study result shows that human capital and SME growth and development are directly proportionate. For example, if the levels of human capital increase, then SME growth and development levels also increase.

The fifth hypothesis (H_5) states that market capability has an impact on SME growth and development ($MC \Rightarrow SMEGD$). The study Smart PLS vers3 bootstrapping results (see Table 9 and Figure 11) indicate that the t-value = 2.148 establishes a significant relationship between market capability and SME growth and development. The path coefficient shows $p = 0.031$, thus $p < 0.05$, confirming that H_5 is supported and significant at the 5% significance level. Furthermore, the path coefficient shows that $\beta = 0.200$, which illustrates that SME growth and development will increase by 20.0% for every unit change in market capability. Therefore, market capability positively impacts ($\beta=0.200$) SME growth and development. Furthermore, this study result shows that market capability and SME growth and development are directly proportionate. For example, if the levels of market capability increase, then SME growth and development levels also increase.

The sixth hypothesis (H_6) states that infrastructure and technology have an impact on SME growth and development ($INFT \Rightarrow SMEGD$). The study Smart PLS vers3 bootstrapping results (see Table 9 and Figure 11) indicate that the t-value = 2.719 establishes a significant relationship between infrastructure and technology and SME growth and development. Furthermore, the path coefficient shows $p = 0.006$, thus $p < 0.05$, confirming that H_6 is supported and significant at the 5% significance level. Furthermore, the path coefficient indicates that $\beta = -0.302$ illustrates that SME growth and development will decrease by 30.2% for every unit change in infrastructure and technology.

Therefore, infrastructure and technology negatively impact ($\beta=-0.302$) SME growth and development. Furthermore, this study result shows that infrastructure and technology and SME growth and development are indirectly proportionate. For example, if the levels of infrastructure and technology increase, then SME growth and development levels decrease as well. The direct relationships illustrated in Table 9 and Figure 13 show that H₁ to H₅ are substantial and positively significant. Therefore, H₆ shows a negatively significant relationship between infrastructure and technology and SME growth and development.

4.5 Mediation Analysis of Market Capability and Infrastructure and Technology

This research utilised, Cepeda-Carrion and Nitzl (2018), Nitzl et al. (2016) and Preacher and Hayes (2008) methodology and procedure to test the several mediating impacts of the mediation variables market capability and infrastructure and technology. The authors recommended that Smart PLS vers3 utilise the bootstrapping of 5000 resampling technique using the criteria of the two-tail t-test at the significance level of 5% or 10% to test the specific indirect effects, p-values and the bias-corrected 95% confidence intervals were calculated.

Table 10 demonstrates the results of the particular indirect effects of the structural model represented by paths entrepreneurial orientation to market capability SME growth and development (EO => MC => SMEGD) and entrepreneurial orientation to infrastructure and technology to SME growth and development (EO => INFT => SMEGD) and the bias-corrected bootstrap 95% confidence interval. Hypothesis H₇ and H₈ hypothesised these mediation effects.

In addition, Table 10 represents the mediation effects by market capability between entrepreneurial orientation and SME growth and development, the total and direct effects. The direct effects, as discussed previously, will assist in determining the type of mediation market capability performs. The hypothesis (H₇) states that market capability mediates entrepreneurial orientation and SME growth and development. The direct effect of entrepreneurial orientation on SME growth and development ($t= 2.962$, $\beta = 0.296$, $p = 0.003$), entrepreneurial orientation on market capability ($t = 3.343$, $\beta = 0.299$, $p = 0.001$) and market capability on SME growth and development ($t = 2.148$, $\beta = 0.200$, $p = 0.032$) are positively significant. However, the total effect has declined to $\beta = 0.247$ and $p = 0$. The specific indirect result of market capability as a mediator between the relationship of entrepreneurial orientation and SME growth and development is positively significant since $t = 1.792$, $\beta = 0.060$ ($0.299*0.200$), $p = 0.073$ and the value zero is not included in the bias-corrected 95% confidence interval (0.007 to 0.142). Furthermore, both the indirect and direct effects are significant. The indirect and direct effects product is positive, indicating that market capability shows a complementary partial mediation of the relationship from entrepreneurial orientation to SME growth and development.

Table 10: Mediating Effects through Market Capability

	Paths	Path Coefficient (β)	Standard Error (e)	T-Statistics (t-value)	P-Values (p)	CI 2.5% to 97.5%
	EO =>SMEGD (Total Effects)	0.247	0.110	2.245	0.025	-0.022 to 0.421
H ₁	EO =>SMEGD (Direct Effects)	0.296	0.100	2.962	0.003	0.065 to 0.456
H ₂	EO =>MC	0.299	0.089	3.343	0.001	0.100 to 0.457
H ₅	MC =>SMEGD	0.200	0.093	2.148	0.032	0.020 to 0.370
H ₇	EO =>MC=>SMEGD (Specific Indirect Effects)	0.060	0.033	1.792	0.073	0.007 to 0.142

Source: Researcher Calculations using Smart PLS 3 software.

Table 11 represents the mediation effects of infrastructure and technology between entrepreneurial orientation and SME growth and development, the total and direct effects. The direct effects, as discussed previously, will assist in determining the type of mediation infrastructure and technology plays. The hypothesis (H₈) states that infrastructure and technology positively and significantly mediate the relationship between entrepreneurial orientation and SME growth and development. The direct effect of entrepreneurial orientation on SME growth and development ($t= 2.962$, $\beta = 0.296$, $p = 0.003$) and of entrepreneurial orientation on infrastructure and technology ($t= 3.918$, $\beta = 0.359$, $p = 0.000$) is positively significant. However, the direct effect of infrastructure and technology on SME growth and development is negatively significant ($\beta = -0.302$). All the direct effects are significant.

Table 11: Mediating Effects through Infrastructure and Technology

	Paths	Path Coefficient (β)	Standard Error (e)	T-Statistics (t-value)	P-Values (p)	CI 2.5% to 97.5%
	EO =>SMEGD (Total Effects)	0.247	0.110	2.245	0.025	-0.022 to 0.421
H ₁	EO =>SMEGD (Direct Effects)	0.296	0.100	2.962	0.003	0.065 to 0.456
H ₃	EO => INFT	0.359	0.093	3.918	0.000	0.147 to 0.507
H ₆	INFT =>SMEGD	-0.302	0.111	2.719	0.007	-0.514 to -0.107
H ₈	EO=>INFT =>SMEGD (Specific Indirect Effects)	-0.109	0.048	2.308	0.021	-0.222 to -0.028

Source: Researcher Calculations using Smart PLS 3 software.

The specific indirect effect of infrastructure and technology as a mediator between the relationship of entrepreneurial orientation and SME growth and development is negatively significant since $t = 2.308$, $\beta = -0.109$ ($0.359 * -0.302$), $p = 0.021$ and the value zero is not included in bias-corrected 95% confidence interval (-0.222 to -0.028). Furthermore, the indirect and direct effects are significant (see Table 11).

The indirect and direct effects product is negative, indicating that infrastructure and technology show a competitive partial mediation of the relationship from entrepreneurial orientation to SME growth and development.

The total effect is calculated as follows:

$$\text{Total effect } (c) = \text{Direct effect } (c^*) + \text{Indirect effect } (a_1 + b_1) + \text{Indirect effect } (a_2 + b_2)$$

$$\text{Total effect } (c) = 0.296 + (0.200 * 0.299) + (0.359 * -0.302)$$

$$\text{Total effect } (c) = 0.247$$

The magnitude and VAF, the indirect effect of market capability = 44% and infrastructure and technology = 24%. The direct effect is 32%. Since VAF < 80%, the indirect is 68%, and the direct is 32% shows a partial mediation.

4.6 Moderation Analysis of Human Capital Knowledge and Skills

This section discusses the moderation impact of human capital on the correlation between entrepreneurial orientation and SME growth and development. When assessing the moderation effect of human capital on the association between entrepreneurial orientation and SME growth and development, the PLS-SEM algorithm and 5000 resampling bootstrapping technique and product indicator approach were used to generate the moderation effect by adding the moderator entrepreneurial orientation and human capital (EO*HC) to model 2 (see Figure 11). Model 2 estimates and the moderator effect of entrepreneurial orientation and human capital (EO*HC) are illustrated in Figure 11. Table 12 describes the path coefficients values and p-value of model 1 with no moderating impact and model 2 with a moderation effect of entrepreneurial orientation and human capital EO*HC on SME growth and development, where entrepreneurial orientation is the exogenous and human capital is the moderating variable. Figure 14 represents a path diagram of model 1 with no moderating impact.

Before analysing the moderation effects, of entrepreneurial orientation and human capital (EO*HC) on SME growth and development, the direct impacts of model 1 EO=>SMEGD (H₁*) and HC=>SMEGD (H₄*) will be examined, and the difference between model 1 and model 2 results will be discussed (see Table 12 and Figures 11 and 12).

In model 1, we will assume hypothesis (H₁*) : entrepreneurial orientation has an impact on SME growth and development in the Northern Cape Province without a moderator (EO=>SMEGD). However, this research's Smart PLS 3 bootstrapping results (see Table 12 and Figure 14) indicate that the t-value = 1.22

does not establish a substantial relationship between entrepreneurial orientation and SME growth and development. Furthermore, the path coefficient $p = 0.222$ indicates $p > 0.05$. Hence H_1^* is insignificant and not supported at the 5% or 10% significance level.

Table 12: Model 1 no moderating and with moderating effect Model 2

Hypothesis	Paths	Path Coefficient (β)	Standard Error (e)	T Statistics (t-value)	P Values (p)	Decision
Model 1: No Moderating Effect of HC wrt EO on SMEGD.						
H_1^*	EO=>SMEGD	0.171	0.140	1.220	0.222	Insignificant Not supported
H_4^*	HC=>SMEGD	0.291	0.128	2.275	0.023	Significant and supported
Model 2: with a Moderating Effect of HC wrt EO on SMEGD						
H_1	EO =>SMEGD	0.296	0.100	2.962	0.003	Significant and supported
H_4	HC=>SMEGD	0.353	0.126	2.810	0.005	Significant and supported
H_9	EO*HC=>SMEGD	0.287	0.118	2.478	0.013	Significant and supported

Source: Researcher Calculations using Smart PLS 3 software.

In model 1, the direct effect of human capital on SME growth and development (HC=>SMEGD) assumes that human capital impacts SME growth and development in Northern Cape Province. However, the Smart PLS 3 bootstrapping results of this research (see Table 12 and Figure 12) indicate that the t-value = 2.275 establishes a substantial relationship between human capital and SME growth and development. Furthermore, the path coefficient shows $p = 0.023$, thus $p < 0.05$. Therefore H_4^* is positively ($\beta=0.291$) significant and supported at the 5% significance level. The path coefficient indicates that $\beta= 0.291$, which illustrates that SME growth and development will increase by 29.1% for every unit change in human capital, suggesting a direct relationship between human capital and SME growth and development. For example, if the levels of human capital increase, then SME growth and development levels increase.

The direct relationship between entrepreneurial orientation on SME growth and development shows that $R^2 = 0.183$, which is considered a reasonable coefficient to predict the accuracy of model 1 without moderation effects (see Figure 12).

Secondly, the moderating effect of entrepreneurial orientation and human capital (EO*HC) is added to model one. The 5000 resampling bootstrapping technique in Smart PLS vers3 generates the results of the direct impacts of human capital on entrepreneurial orientation. In addition, the moderation effect results of entrepreneurial orientation and human capital between SME growth and development (EO*HC=>SMEGD) are calculated simultaneously (see Table 12 and Figure 11).

The direct effects of hypotheses H_1 and H_4 have been discussed previously. It was determined that both direct effects of entrepreneurial orientation on SME growth and development (EO=>SMEGD) and human capital on SME growth and development (HC=>SMEGD) of model two were positively significant at the

5% confidence level. In addition, the hypothesis (H₉) states that human capital has a significant positive moderating effect on the relationship between entrepreneurial orientation and SME growth and development (EO*HC=>SMEGD). However, the Smart PLS 3 bootstrapping results of this research (see Table 12 and Figure 13) indicate that the t-value = 2.478 establishes that human capital has a significant positive moderating effect on the relationship between entrepreneurial orientation and SME growth and development (EO*HC=>SMEGD).

Furthermore, p = 0.013 indicates p < 0.05. Therefore, human capital is positively (β=0.296) significant moderating effect on the direct relationship between entrepreneurial orientation and SME growth and development (EO*HC=>SMEGD), and H₉ is supported at the 5% significance level.

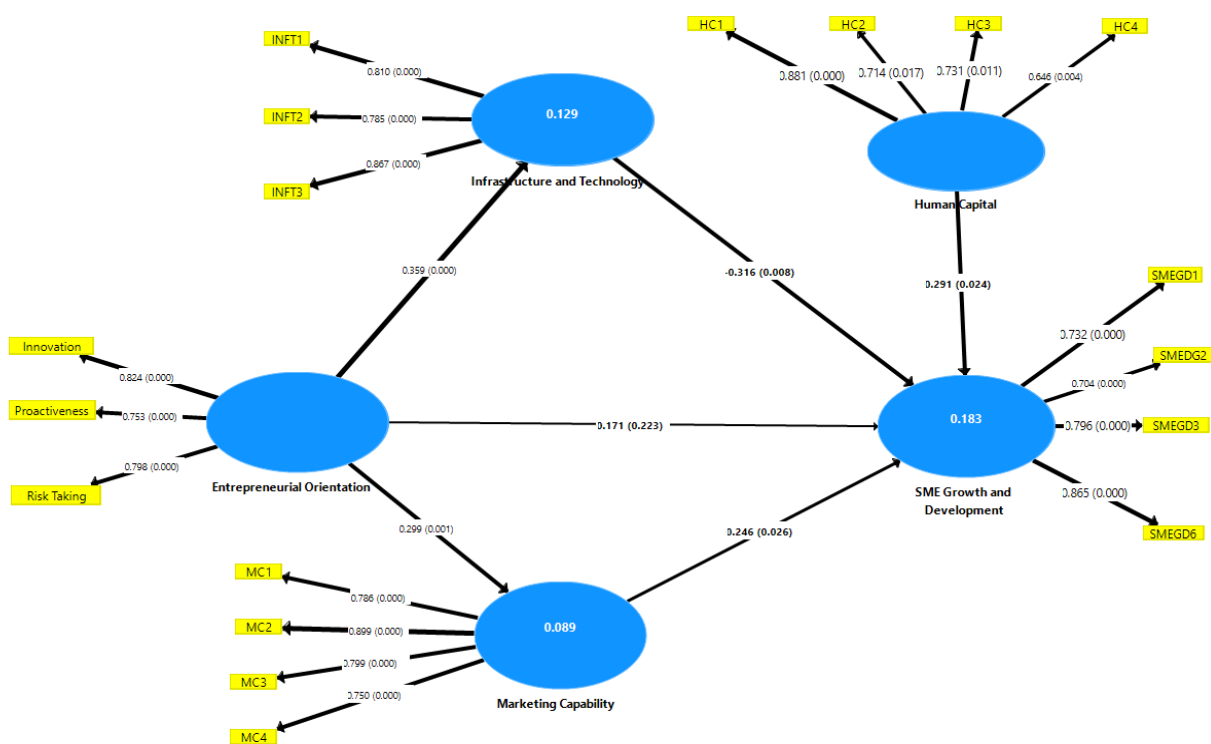


Figure 11: Model 1 without a moderating effect of Human Capital on Entrepreneurial Orientation and SME growth and development

Source: Researcher Calculations using Smart PLS 3 software.

Although in model one, the direct effect of entrepreneurial orientation and SME growth and development (EO=>SMEGD) was found to be insignificant. However, in model two, the addition of the moderating variable entrepreneurial orientation and human capital on (EO*HC) increased the direct effect of entrepreneurial orientation and SME growth and development (EO=>SMEGD) on the t-value from 1.220 to 2.960, and the p < 0.05; hence the hypothesis H₉ was positively significant. Thus, adding the moderating variable of human capital improved the direct relationship strength between entrepreneurial orientation and SME growth and development. Also, the β coefficient of the direct effect increased by 12.5% (29.6% - 17.1%), and (R²) changed when the moderator variable was added to model 1, which resulted in a change

from moderate (0.183) to a substantive (0.295) predictive accuracy. Furthermore, adding the moderator variable changed the R^2 by 11.2%, which is an additional variance.

Figure 13 represents the three lines of a Simple Slope Analysis, representing the relationship between the entrepreneurial orientation exogenous variable on the x-axis and the SME growth and development endogenous variable on the y-axis. The red line represents the mean level of the moderator variable, human capital. The blue and the green line represent the moderator effect of human capital on the relationship between entrepreneurial orientation and SME growth and development, respectively.

The blue line indicates a low-level moderator effect of human capital at -1 SD, the green line indicates a high-level moderator effect of human capital at +1 SD, and the red line shows an average level of the moderator effect of human capital. Figure 13 illustrates that the blue line gradient is flatter, close to zero; hence if there is a low level of human capital, there is little or no direct effect of entrepreneurial orientation on SME growth and development. However, the blue line has a much steeper gradient, more significant than the blue line, which shows that a higher human capital results in a more robust direct relationship between entrepreneurial orientation and SME growth and development. Therefore, human capital moderating effect directly impacts entrepreneurial orientation on SME growth and development.

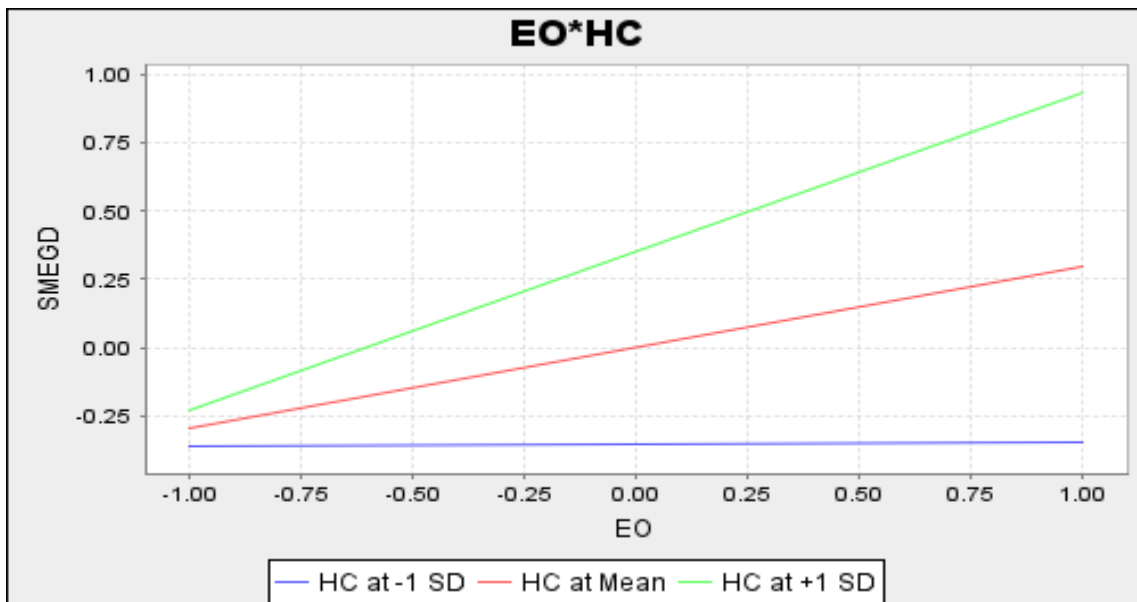


Figure 12: Simple Slope Analysis of the Moderating Variable

Source: Researcher Calculations using Smart PLS 3 software.

4.7 Chapter Conclusion

In this chapter, the research results were scrutinised using the data from the 128 respondents who completed the questionnaire. Firstly, a descriptive statistics profile of the respondents was discussed, followed by an evaluation of the measurement and structural model. Next, the latent variable reliability and validity were examined by running a Smart PLS 3 algorithm to determine the results for outer

loadings, Cronbach Alpha, Rho (ρ), convergent reliability and average variance extraction. These criteria were assessed and satisfied the requirements according to the extant literature. Subsequently, the structure model could be analysed since the quality of the measurement model was satisfactory. The latter results were tested and found to be acceptable, except there were mixed findings of coefficient of determination (R^2) concerning entrepreneurial orientation (EO) and market capability (MC). Finally, the hypothesis findings resulted in all the hypothesis direct effects two-tail t-tests presented a significant association amongst the exogenous and endogenous constructs at the 5% significance level.

Furthermore, the direct effects relationship amongst the exogenous and endogenous constructs indicates a significant positive relationship between entrepreneurial orientation and SME growth and development, entrepreneurial orientation and market capability and entrepreneurial orientation and infrastructure and technology, which means that if entrepreneurial orientation increases, so do SME growth and development, market capability and infrastructure and technology. Likewise, there is a significant positive relationship amongst human capital, market capability and SME growth and development. However, there is a negative relationship between infrastructure and technology and SME growth and development, signifying that an increase in infrastructure and technology will decrease SME growth and development.

Smart PLS vers3 algorithm, a 5000 resampling bootstrapping technique, was utilised to obtain the results for the structure model, mediation and moderation effects. The indirect effect of market capability, infrastructure, and technology as a mediator between entrepreneurial orientation and SME growth and development was significant. However, although market capability, infrastructure, and technology direct and indirect effects were significant, their products differed in sign. Thus, market capability shows a complementary partial mediation of the association between entrepreneurial orientation and SME growth and development, but infrastructure and technology show a competitive partially mediation from entrepreneurial orientation to SME growth and development. The following chapter discusses the findings and concludes the results.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

Chapter five summarises the findings and concludes the research project, which will guide the policy recommendations and finally, the avenues for future research will be discussed.

5.1 Summary of Research Findings

The research study analysis was built on a sample of 128 SMEs from the Northern Cape Province. The data analysis consisted of descriptive statistical analysis and PLS-SEM. In addition, Smart PLS 3 software was utilised to run the PLS algorithm and bootstrapping with the 5000-resampling technique. Most respondents came from the Francis Baard district (51.6%), but an equal number of males and females, with the majority over 40 years (78.9%). The respondents employed 660 permanent jobs, averaging 5.16 per SME. However, before the outbreak of COVID 19, SMEs hired 685.

Regarding the age of business, SMEs between 0 - 5 constituted the most. There were only 4% with a post-graduate degree and 7% with degrees. SMEs' profits and turnover were low, and only 9.37% exported their products. Although three-quarters of the SMEs have access to water and electricity, a concern is that only a quarter have physical infrastructure and access to land, indicating that SMEs will have a constraint to expand.

The measurement and structure models were set up to explore the impact of entrepreneurial orientation, marketing capability, human capital, infrastructure, and technology on SME growth and development. In addition, the mediating role of entrepreneurial orientation on marketing capability, infrastructure and technology and the moderating role of human capital on SMEs with PLS-SEM. The measurement model reliability and validity were evaluated to ensure that each item's loadings met indicator reliability, internal consistency reliability, convergency reliability and discriminant validity criteria. Moreover, the structural model was verified for predictive power and significance.

The study suppositions show that entrepreneurial orientation has a significant positive effect on the association between entrepreneurial orientation and SME growth and development. Moreover, the research findings show that entrepreneurial orientation mediation on marketing capability, infrastructure and technology is positively significant. Thus, entrepreneurial orientation plays a crucial role in SME growth and development. According to other scholars, these results show that entrepreneurial orientation is vital to SME growth and development.

The study found a significant positive relationship between market capability and SME growth and development. Thus, market capability as a resource for SMEs should improve marketing performance and expand the SMEs' market share, which will impact SME growth and development. On the other hand, the findings of this research show that the relationship between infrastructure and technology and SME growth and development is negatively significant, which is not in keeping with other developing countries' studies. However, in the Northern Cape Province, the study found that only a quarter of SMEs have physical infrastructure and access to land, indicating that SMEs will be restricted from expanding. Furthermore, the lack of technology skills and ICT infrastructure contributes to SMEs' future growth and development.

The research findings showed a significant positive relationship between human capital and SME growth and development. Lastly, the research established the moderation of human capital in the relationship between entrepreneurial orientation and SME growth and development. Again, the findings indicated a significant positive connection between human capital, entrepreneurial orientation and SME growth and development. However, entrepreneurial orientation and SME growth and development would not be substantial if the moderation relationship were not introduced. Therefore, by introducing the moderation relationship, the structural model predictiveness and significance were strengthened—Furthermore, the relationship between entrepreneurial orientation and SME growth and development became significantly positive. Therefore, SMEs with low human capital and entrepreneurial orientation will impact the growth and development SMEs. Hence SMEs must improve their knowledge, skills and entrepreneurial orientation through entrepreneurship training.

5.3 Conclusion

This research paper evaluates the relationship of identified determinants that affect SMEs' growth and development. The study identified four determinants impacting SME growth and development: entrepreneurial orientation, human capital, market capability, and infrastructure and technology. Also, the study investigated market capability, infrastructure and technology as mediators between entrepreneurial orientation and SME growth and development and human capital as a moderator. The quantitative methodologies approach was utilised to implement the PLS-SEM technique by adopting the Smart PLS 3 software. In addition, a PLS algorithm and 5000 resampling bootstrapping methods were also used to appraise the measurement and structural models.

The reliability and validity of the measurement model and the predictiveness and significance of the structural model were satisfied. The empirical study findings showed that the relationship of the direct effects between entrepreneurial orientation, human capital, market capability and SME growth and

development is positively significant. However, the relationship between the direct effects between infrastructure and technology and SME growth and development is significantly negative.

The indirect effects results indicated that market capability as a mediator between entrepreneurial orientation and SME growth and development is positively significant. However, infrastructure and technology as a mediator are negatively significant. The moderation effect of human capital was found to be positively influential. If human capital were not introduced as a moderator, the relationship between entrepreneurial orientation and SME growth and development would be insignificant, indicating the importance of human capital for SME growth and development.

The relevance of these findings is for SME development programmes to consider constructs such as entrepreneurial orientation, human capital and market capability. For example, SMEs with low human capital, market capability and entrepreneurial orientation would be deprived of taking advantage of financing, new markets, technology, innovations and many other opportunities. In contrast, those SMEs with higher human capital, market capability, and entrepreneurial orientation would be better positioned to latch on to these opportunities. In addition, human capital as a moderator would contribute to the Resource Based View and assist in policy development to improve SME growth and development. These results are keeping with the Resource Based View and Human Capital Theory.

The research has identified entrepreneurial orientation, human capital, and market capability determinants that impact SME growth and development, focusing on when the government or other stakeholders develop programmes, seminars, or workshops to accelerate SME growth and development. In conclusion, the research has reached its goals with a few limitations.

5.4 Policy Recommendations of the Findings

SMEs form the building blocks for sustainable socio-economic development and growth in developing countries. The key to SME growth and development is the entrepreneur with human capital (education, knowledge, skills, experience) and strategic orientation to innovate and take advantage of the current market opportunities. However, SMEs are confronted with several challenges in the Northern Cape Province. How can these constraints that impact SME growth and development in the Northern Cape Province be addressed?

The SMEs can utilise the results of this study in the Northern Cape Province. Stakeholders or policymakers who intend to speed up SME growth and development should promote the importance of entrepreneurial orientation (strategic orientations), Human capital (knowledge, skills, education, experience), and market capability through various means, including seminars or entrepreneurship programmes. In addition, government programmes should categorise SMEs differently and address the

weaker SMEs that lack entrepreneurial orientation, human capital, market capability, infrastructure, and technology.

Entrepreneurship activity should include these determinants as part of the university, college, and school curriculum to improve knowledge skills and education concerning market orientation, entrepreneurial orientation, risk, innovation and proactiveness.

In addition, public policy should go beyond the traditional thinking of assisting SMEs but look at new interventions and be more proactive to improve the effectiveness of SME policy development that will accelerate SME growth and development. For example, green energy is a growing industry in the Northern Cape Province but does the policy only centre around this industry or do we expand to incorporate other sectors using this as a lever for future development? Although the private sector's role in supporting SMEs is risk-averse, public policy must be directed to fill these gaps.

Finally, public policy should be redirected so that innovation not only focuses on technological change but also cuts across the entire industry spectrum of change and organisational change, which requires taking risks by being proactive and transforming policy directions.

5.5 Avenues for Future Research

Only a few studies have been done concerning identifying the determinants of SMEs in the Northern Cape Province. However, based on this research, some research gaps could be identified. For example, this research study determined that the coefficient of determination (R^2) = 0.295 should be increased to increase the structural predictiveness. Therefore additional constructs could be added to the model, increasing the coefficient of determination. As a result, the structural model predictiveness and significance would be improved. These determinants include financial capital, market orientation, digitalisation, and innovation.

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