ENTREPRENEURSHIP FRAMEWORK FOR THE ECONOMIC COMMERCIALISATION OF SMALLHOLDER FARMING IN SOUTH AFRICA

By

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A thesis submitted in partial fulfilment of the requirements for the degree:

Doctor of Business Leadership

In the

School of Business Leadership (SBL)
University of South Africa (UNISA)
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November 2022

DECLARATION

I, Victor Mbulaheni Mmbengwa, declare that “Entrepreneurship framework for the economic commercialisation of smallholder farming in south Africa” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references. I further declare that I submitted the thesis/dissertation to the appropriate originality detection system which is endorsed by Unisa and that it falls within the accepted requirements for originality. I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

05-11-2022

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V.M. Mmbengwa **Date**

DEDICATION

I would like to dedicate this work to my family and friends, who have helped me morally and physically to achieve this important task. A special thanks to my wife (Theresia Nochebele Mmbengwa) and my sons and daughters for their patience and encouragement. My sister (Sheila) and my brother (Remember Mmbengwa) deserve many thanks for their support.

ACKNOWLEDGEMENT

The author wishes to express his gratitude and appreciation to the following persons sincerely:

- My supervisors, Prof Pierre Joubert and Prof Deon Tustin, consistently aided and advised. This would not have been possible without their inspiration and encouragement.
- My wife (Mrs. Theresia Mmbengwa), my sons (Lucky, Themba, and Livhone), and my daughters (Vhutshilo and Ndivhuwo), for their support.
- My brother (Remember Mmbengwa) and my sister (Sheila Mmbengwa) for their support.
- Prof J.A Groenewald, who equally gave me academic inspiration.
- Dr. Xiaoshun Qin for motivation and encouragement.
- Mr. Tshililo Ronald Ramabulana, former CEO of NAMC, for support.
- Mrs. Virginia Nkobi (HR Senior Manager: NAMC) for financial support.
- Mrs. Mashudu Siobo, for excellent support services
- Mr. Brian Ndou, Samuel Fete (my brother-in-law), and Mrs. S. Fete (my mother-in-law) for encouragement.
- Pastor Irene [President of World Restoration Centre (WRS)] for World Peace by Jesus Christ for divine support and prayers.
- Mashudu Daniel Rambau and Khathutshelo Rambau: For technical assistance.
- Members of WRS Centre, Vleikop, Randfontein, Johannesburg for support.
- Ms. Tumelo Seopa. UNISA SBL DBL Program Delivery, for admin support.
- The University of South Africa, Graduate School of Business Leadership (SBL), for providing supportive resources, time, and flexibility.
- To all persons who contributed at some stage during the study.

ABSTRACT

ENTREPRENEURSHIP FRAMEWORK FOR THE ECONOMIC COMMERCIALISATION OF SMALLHOLDER FARMING IN SOUTH AFRICA

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DEGREE: Doctor of Business Leadership (DBL)

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The agricultural sector in South Africa could be categorized into two main farming sub-groupings, that is commercial farming [a farming sector that is perceived as sophisticated with advanced technologies and systems, who owns vast hectares of land (87% of agricultural land)] and smallholder farming which are perceived to have limited or little access to land (13% of agricultural land) with low technological systems. The latter farming sector has limited entrepreneurial performance, obscured entrepreneurial leadership, minimal competitive advantage and commercialization because of historical marginalization. Consequently, the sector was often operated to achieve household livelihood relative to economic gains.

Through a variety of the government interventions (such as Land Redistribution for Agricultural Development (LRAD), Comprehensive Agricultural Support Programme (CASP), Micro Agricultural Financial Institutions of South Africa (MAFISA) Proactive Land Acquisition Strategy (PLAS), Agricultural Black Economic Empowerment (Agri-BEE), Operation Phakhisa, etc., the South African government sought to transform this sector to be economically viable such that it could be instrumental in reducing unemployment, poverty, and inequality by increasing their entrepreneurship in poverty-stricken rural areas.

Increasing their entrepreneurial performance implies that these farmers could achieve financial and non-financial benefits by increasing their market shares, profitability, sales growth and return on investment, entrepreneurial information, knowledge, and capacity.

The global experience seems to suggest that small and medium enterprises (SMEs) positively impact the economic growth and competitiveness of different countries because of their flexibility and adaptability to market changes. SMEs have moreover been credited with their impact on employment and knowledge sharing. Although smallholder farming enterprises in South Africa fall within the categories of SMEs, their contribution to employment creation has been limited due to their lack of intellectual and social capital, entrepreneurship, commercialization, and competitiveness. An important limitation of smallholder competitiveness has been identified from their limited information regarding their households and production systems.

To address the afore-said challenges, a comprehensive study that sought to develop the entrepreneurship framework for the economic commercialization of smallholder farming in South Africa was conducted. The study involved two phases. During phase one, secondary research investigating theories of smallholder farming enterprises, entrepreneurship, leadership, and commercialization was investigated. Participatory research involving focus group discussions and personal interviews with farmers was used. Phase two comprised of government officials and non-governmental institutions. The sample size was determined based on the cluster randomized sampling techniques, resulting in 1115 participants. The procedure used to identify the study participants was possible because of the cooperation with the National Agricultural Marketing Council (NAMC) and Provincial Departments of Agriculture (PDAs). Only six provinces formed part of the study.

The study results were presented in terms of the research objectives in subsequent chapters. The results of the study that sought to determine the entrepreneurial performance of the smallholder farming sector revealed that for smallholder farming (that has failed to commercialize its production for several decades) to evolve into a high-performance sub-sector will require industrial knowledge, human relations, and managerial skills to be economically viable.

Additional factors that could affect the entrepreneurial competitiveness of the smallholder farming sector in contemporary South Africa are a unique product and service features, the price value of the products, and consumer experience significantly influencing the entrepreneurial competitiveness of this sector. The study established strong evidence of a relationship between social capital and identified factors such as credibility, farming culture, market agency, expertise, leadership readiness, and creativity. The factors that affect entrepreneurial leadership in the smallholder farming sector in South Africa, such as growth, mentorship, government support, and effective communication, were found to affect the entrepreneurial leadership of smallholder farming significantly.

Lastly, the results of the study, which aimed at developing a commercialization model for the smallholder farming sector of South Africa, showed that entrepreneurial leadership, social capital, and competitive advantage play an essential role in ensuring the enterprise performance of smallholder farming which in turn mediate for commercialization of the enterprises in this sector. The overall results of the current study have practical implications for the present and future smallholder farming sector in South Africa. Firstly, the study identified crucial factors that could affect entrepreneurial performance, competitiveness, social capital, leadership, and commercialization. Secondly, the study also contributed to an entrepreneurship framework for the commercialization of this sector. The framework proposed has the potential to transform this sector to be economically viable so that it can contribute to reducing the socio-economic challenges.

KEYWORDS: Entrepreneurship, performance, competitiveness, socio-economic, commercialization.

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3.	VM Mmbengwa, P Joubert and D Tustin	Social capital for the smallholder farming sector.
4.	VM Mmbengwa, P Joubert and D Tustin	Evaluation of the effect of the entrepreneurial leadership factors in the smallholder farming sector.
5.	VM Mmbengwa, P Joubert and D Tustin	Development of commercialization model for the smallholder farming sector.

LIST OF ACRONYMS

Acronyms	Description
AGRIBEE:	Agricultural Black Economic Empowerment.
ANOVA	Analysis of variance
BATAT:	Broadening Access to Agricultural Thrust
BD	Business dynamics
BT	Building trust
CA	Competitive advantage
CB	Consensus building
CDG	Corporate development and growth
CRDP:	Comprehensive rural development program
DAFF:	Department of Agriculture, Forestry, and Fisheries
DRDLR:	Department of Rural Development Land Reform
E	Residual (error term),
EA	Economic advancement
EV	Economic viability
EC	Eastern Cape
EC	Effective communication
EC	Entrepreneurial capacity
EEA	Entrepreneurial employee activity
EFC	Entrepreneurial framework conditions
EL	Entrepreneurial leadership
EP	Enterprise performance
EO	Entrepreneurial opportunities
FS	Free State
FDIs	Development financial institutions
FGSs	Focus Group sessions
GDP	Gross domestic product
GP	Gauteng
GEM	Global Entrepreneurship Monitor
HDIs:	Historically disadvantaged individuals

HMLRM	Hierarchical multiple linear regression model
IGDP:	Integrated growth & development plan,
ISRDS:	Integrated sustainable rural development strategy
KMO	The Kaiser-Meyer-Olkin Measure of sampling adequacy
LARP:	Land & Agrarian Reform Program
LP	Limpopo
MLR	Multiple linear regression (analyses
MM	Mentorship and motivation of the members or staff
MP	Mpumalanga
NDA:	National Department of Agriculture
NDP:	National development plan
NEG	National economic growth
NGP:	New growth plan
NPC	National Planning Commission
NIDS	National Income Dynamics Study's
NIE:	New Institutional Economic theory
RECAP	Recapitalization and Development Program
RET	Radical economic transformation
SADC	Southern African Development Community
SCP	Social, cultural, political
SEM:	Structural Equation Modelling
SPSS:	Statistical Package for the Social Sciences
SO	Social capital
TEA	Early-stage entrepreneurial activity
UNISA:	University of South Africa
WC	Western Cape

CHAPTER ONE
GENERAL INTRODUCTION

1.1 INTRODUCTION

Sustainability agricultural practices emanate from the development processes that consider the impact of the current development and the future of the next generation (Blewitt, 2014; Secundo et al., 2020; Borges et al., 2021). Cornelissen et al. (2001) and Tian et al. (2021) define sustainable agriculture as a form of agricultural operations that seeks to ensure the continuity of agricultural production systems from one generation to another. This agricultural practice focuses on social, economic, and environmental factors that affect agricultural production (Botlhoko and Oladele, 2013; Ofosu et al., 2020). The growth of smallholder farming in South Africa implies the incremental transformation of smallholder farming to semi-commercial enterprises where the size of the land, annual turnover, and employment are increased as articulated by the National Small Business Act 102 of 1996 (Mmbengwa 2009; Antwi and Oladele 2013).

The growth and sustainability of smallholder farming are crucial in addressing food security in poverty-stricken regions of the African continent. On the contrary, this farming is also essential in reducing the socio-economic challenges imposed by the global economic trajectory and slow economic growth, political instability, and the threats imposed by climate change (seasonal droughts, high temperature, floods, etc.) that affect the domestic and global food chains. High food inflation (7.8%), producer price rise (7.5%), and erratic rainfall continue to impact negatively on the household food security of most South African households (Dimant et al., 2016; Connolly-Boutin and Smit, 2016; Adjei 2021). According to these authors, poor households' affordability and accessibility of food have been reduced. In addition, the commercial agricultural sector has been reported to constantly decline in size (Okunlola et al., 2016; Obi and Ayodeji, 2020).

Given the decline in the size of commercial farming operations and the perceived increase of smallholder farming in the South African agricultural sector, the answer for this sector's future seems unclear. This is so because smallholder farming lacks the necessary technology to produce massive food, and above all, this farming appears to be lacking the necessary farming culture, resources, and institutional support. Nevertheless, Aliber & Hall (2012) reported that the World Development Report of 2008 appeared to elevate smallholder-led agricultural development as a developmental solution for countries globally.

According to World Bank (2007), a robust case was made (to governments and international development institutions) for significant investments in smallholding farming development. This demonstrated how effective smallholder agriculture could alleviate rural poverty. The World Bank further demonstrates that this farming system could increase agricultural labor productivity three times more than its counterpart. Apart from productivity, it has been highlighted that this farming system could more likely raise the poorest communities' incomes than non-agricultural activities (World Bank, 2007). This seems to indicate that equally (without prejudice to commercial farming), smallholder farming may be the champion for sustainable agricultural systems in South Africa soon.

The (i) theoretical framework; (ii) problem statement; (iii) thesis statement; (vi) significance and limitation of the study were dealt with in subsequent sections. The theoretical framework section has provided a brief theoretical underpinning of the study. It aims to provide a theoretical framework and practical significance of the study. The problem statement has provided the nature of the problem to be investigated and the anticipated solution. Finally, the aim, together with the study's objectives, were highlighted to reflect the desired outcome of the research and steps to be taken to address the aim of the study, respectively.

This was followed by research questions that addressed the underlying research objectives. Subsequently, the significance of the research study was explained, and its anticipated contributions (in the sectors, industries, and body of knowledge) were highlighted. After that, an in-depth literature review was presented. The role of the literature review is to provide a broader analysis of the main concepts, experiences, intuition, and theories that could be used to interpret the main findings.

The research design was discussed to provide and explain the philosophical underpinnings of the research. Next, the rationale underlining the choice of the research design was explained and justified. Next, the research methodology was discussed to detail the critical aspects of the methodology, such as population, sampling technique, sampling size, data collection strategies, and analytical tools used. Lastly, the approach to receiving ethical clearance from the respondents and the university that hosted the study was presented. The schedule and references cited in the text were enlisted as a bibliography to ensure that information cited could be verified and validated as a true reflection of the information presented in the study.

1.2 BACKGROUND OF THE SMALLHOLDER FARMING

Groenewald (1998) and Uhunamure et al. (2021) reported that the agricultural sector in South Africa could be categorized into two main farmer categories viz: commercial farmers, who are perceived to have sophisticated, technologically advanced systems and own vast hectares of land, and smallholder farmers, who are perceived to have limited or little access to land and regressed technological systems (Fenyes et al., 1998; Tsige et al., 2020). The differences between commercial and smallholder farming are also noticeable in the development support from government entities. Commercial farming benefited significantly from the South African government from 1912 until 1994 (approximately 82 years). If the logic above is actual, smallholder farming was marginalized for approximately 82 years. This implies that smallholder farming is only starting to receive government support since 1994.

Although smallholder farming is often referred to as homogeneous, this farming is, in essence, heterogeneous and is constituted by subsistence, small-scale, and smallholder emerging commercial farming as per farmer support norms and standards (DAFF, 2016; Hlatshwayo et al., 2021; Gwiriri et al., 2021). Christianisen et al. (1993) and Oyo et al. (2018) reported that smallholder farming is confusing, unclear, and often controversial. This confusion is not only because of the differentiation of small-scale and smallholder emerging commercial farming categorization but also because of how this farming sector was modeled to operate and strive in the agricultural economy of South Africa. Van Rooyen and Botha (1998) and Igshaan Samuels et al. (2021) reported that smallholder farming in South Africa was historically structured to operate within the framework of the betterment planning model.

The betterment planning model proposed that smallholder farming be managed as agricultural projects rather than business (economic) units as purported by the Tomlinson commission of 1995 (Van Rooyen and Nene, 1998; Igshaan Samuels et al., 2021; Mapiye et al., 2021). Furthermore, this model influenced South Africans to perceive smallholder farming as an agricultural sector for black South Africans and commercial farming for their White counterparts. In other words, agricultural dualism, as reported by Groenewald (1998), gave rise to these sectoral differentiations. Therefore, it is unsurprising that dualism was formulated along racial lines following the government's policies. Hence, advancement planning approaches sought to attract black farmers to participate in small-scale agriculture for their household food security and survival.

This approach advocated that each rural household should have two and a half hectare, especially in the homelands (Groenewald, 1998; Zantsi et al., 2021). However, the Tomlinson commission of 1955 advocated for a different approach to the betterment planning model. The commission advanced smallholder farming to assume an economic unit approach (an approach that seeks to attract black middle-class businesspeople to be involved in smallholder agriculture). Unfortunately, the authorities partially accepted the Tomlinson approach in favor of betterment planning. As a result, implementing the betterment planning for smallholder farming resulted in lacking entrepreneurship and independence from the government handouts in this type of farming.

This profile for smallholder farming made black farming perceived as inferior compared to white commercial agriculture in many respects. In addition, smallholder farming underpinned by the betterment planning model sought to have created a poor profile for smallholder farming such that black entrepreneurs could hardly associate with nor invest in this type of farming enterprise. This profile has also scared away young black experts, making the sector characterized by old, retired, unemployed, and uneducated black farmers. Having this constituency, smallholder farming has found it challenging to transform regardless of the government's resources. Van Rooyen and Nene (1998) and Leyte et al. (2021) attribute the failure of smallholder farming to grow to the betterment approach the government took before 1994. These authors sought to think that the betterment approach was socially, culturally, and politically incorrect and was devoid of entrepreneurial and managerial orientation.

The betterment approach to smallholder farming in South Africa lacked sustainability and vision as it did not encourage the choice of the suitable land, farmer, investor, and tenure condition as proposed by Lewis in 1954 (Groenewald, 1998; Igshaan Samuels et al., 2021). Burger (1971) also hinted that for a farmer to farm sustainably, managerial aptitude, record keeping, accountancy, labor management, and budgeting should be critical to the farming business' success. In addition, Benventi (1962) and Eastwood et al. (2019) reported that personal qualities and relevant qualifications could enhance the success of the farming business. Furthermore, Burger and Groenewald (1971) outlined that access to science, technology, and analytical skills are additional key attributes for farming success.

Given the reports mentioned above, smallholder farming does not match the profile of successful and competitive farming. Thus, expecting these farmers to compete in a commercial market-driven environment without changing the business model may not lead to the desired outcome regardless of the resources provided.

1.3 PROBLEM STATEMENT

It is clear from the literature review that smallholder farmers in South Africa lack visible entrepreneurial leadership capacities. This lack of capacity seems to be the main factor that adversely affects these enterprises' ability to be profitable. As a result, sluggish smallholder farmer profits were cited from 1997 till 2020 (Grover and Gruver, 2017; von Loeper et al., 2018; Llewellyn and Brown, 2020). The concomitant lack of profit appears to be realized despite the government's comprehensive support programs (which served as a stimulus for growth and sustainability). Furthermore, the failure to profit could attribute to their lack of growth in commercial enterprises.

This scenario makes these enterprises to be economically unviable and stunted. The stunted growth (despite the government's comprehensive support) could be viewed as costly to the government and may be prematurely terminated if the situation does not improve. The consequential effect of the termination of the government's comprehensive support could be dire to the nation. Some of the consequences could be associated with the halting of agrarian transformation. The slow or no agrarian transformation also has a high potential to cause political instability and economic uncertainty (du Toit, 2018; Bergius et al., 2020; Yue et al., 2021). Opolot et al. (2018) highlighted that entrepreneurial leadership is crucial to ensuring smallholder farming growth and sustainability in South Africa.

1.4 THESIS STATEMENT

A robust dynamic entrepreneurship leadership model for smallholder farming in South Africa may enhance the competitiveness of farming systems such that these farmers could gradually operate at a commercial farming scale. It is conceptualized that these farmers could contribute to sustainable job creation, economic growth [through their potential contribution to the gross domestic product (GDP)], and reduction of poverty and unemployment in poverty-stricken rural areas of South Africa. However, the inadequacy in enterprise development, entrepreneurial performance, social capital development, entrepreneurial leadership, and commercialization have a retrogressive impact on the growth and sustainability of this system.

1.5 SIGNIFICANCE OF STUDY

The findings of this study have substantively assisted in improving commercially viable smallholder farmers. Since 1994, smallholder farming has received increasing government support with a marginal impact on its quest for commercialization. Various models have been implemented, including collective farming strategies such as group farming and farm cooperatives. These farming strategies were implemented to improve the economic viability of smallholder farming, yet minimal impact on the competitiveness of this sector has been reported. The lack of competitiveness may result from excluding entrepreneurship models and leadership in agrarian development planning. Business development without entrepreneurship has very little probability of success. Therefore, this study seeks to inculcate the development of smallholder farming within the framework of sound entrepreneurship and its leadership theories.

Given the complexities of smallholder farming, its risk aversion, family reliance, and climate sensitivity, a dynamic farming entrepreneurial leadership model may be able to navigate solutions in challenging times. This sophisticated response to complex challenges may help improve competitiveness, independence from government support, the attraction of youth involvement, investments, and contribution to the country's economy. In addition, the additions above may refine the existing theoretical framework and extend the existing knowledge in the agrarian development discipline.

The changes in the theoretical makeup would otherwise make the existing theories relevant and applicable to developing countries such as South Africa. This addition may contribute significantly to the smallholder farming sub-sectors of agri-business planning and risk aversion strategies. In addition to the sector, the findings of this study would be more beneficial in business planning, counselling, policy development, and educational interventions. Despite this, the officials of the Department of Rural Development and Land Reform (DRDLR) and Agriculture, Forestry and Fisheries (DAFF) could benefit from knowing the status and the impact of entrepreneurial performance, competitiveness, social capital formations, and leadership.

This knowledge could enable them to use the information to improve the prospect of success of smallholder farming businesses' ailing land reform. The officials could also use this information to improve the competitiveness of the smallholder farmer cooperatives supported by development financial institutions (FDIs). Furthermore, the agricultural department, forestry, and fisheries (DAFF) may benefit from knowing the influential factors in ensuring smallholder farming's progression to commercial production levels. This enables them to provide practical agricultural extension service support, coordinate value chain support, and adapt existing policies to support smallholder farmers' growth and development.

The study could influence academic realignment and curricula transformation in the higher education fraternity by introducing an agrarian entrepreneurship discipline, which could provide a sound base for innovation and technological development to support smallholder farming commercialization. In the long run, the study's findings could influence the sector to embark on international best practices that could foster benchmarking of the smallholder farming performance with other international

counterparts. This benchmarking process could mark global resuscitation, restoration, vibrancy, and competitiveness. In this way, the study could contribute significantly to improving the commercialization and competitiveness of smallholder farming. The achievement of competitiveness and commercialization of smallholder farming could potentially create decent jobs, attract youth, and reduce poverty and food security for the resource-poor rural communities in South Africa.

1.6 LIMITATIONS AND DELIMITATIONS OF THE STUDY

The lack of a reliable smallholder farming database in South Africa had imposed significant limitations on this study. In this country, each agri-business industry gathers data without collaborating with others (working in silos). The lack of sharing of the available database by industries has often led to duplicating the databases in this sector. In addition, Statistics South Africa (a government agency) regularly conducts censuses, but the raw data is often not accessible.

In the same vein, data available through industries do not link up with the study's specific objectives and thus was incompatible with use for this study. Finally, the second major limitation was associated with the climate change. It had limited the number of respondents because it was associated with the attrition of the farmers' base and, therefore, it has affected their availability to participate in the study.

Due to drought, some agri-business commodities (e.g., grains and livestock farming) were out of business, and their businesses had collapsed. Hence, the number of farmers were constantly declining. The decline in the number of farmers had negatively impacted the sample size of this study, and therefore, it had affected the internal consistency of the study.

Therefore, the study was limited to evaluating the entrepreneurial viability of smallholder farming where factors affecting their competitiveness, performance, profitability, and leadership were identified, and models were developed to improve the prospects of these smallholder farmers to be commercially viable. However, the efficiency and effectiveness of the developed models were not tested due to statistical software resource limitations.

On the account of delimitations of the study, the stakeholders had a positive and willingness to participate in the study. Furthermore, financial and non-financial resources were availed by national agricultural marketing council (NAMC). The respondents also gave a good show up in both survey and focus group sessions.

1.7 TECHNICAL TERMINOLOGIES

Smallholder farmer: a farmer with a limited production capacity, resources, and technologies but his aspiration is to be a capitalistic commercial farmer (Cousins,2010).

Small-scale farming is a development strategy promoted by the Tomlinson commission in the mid-1950s (Ngqangweni, 2007).

Agricultural cooperatives: are organizations that play an essential role in supporting rural livelihoods and smallholder farming (Getnet and Anullo, 2012).

Commercial farming: is large-scale farming that has access to most of the land, resources, and technology in South Africa (Genis, 2015).

Entrepreneurship: is a process of establishing or seizing an opportunity and pursuing it regardless of the resources currently controlled (McDougall and Oviatt, 2000).

The entrepreneurial organization: is a relationship network defined using formal hierarchies and markets (Lowndes and Skelcher,1998).

The entrepreneurial process: establishes a novel business by identifying the innovations suitable for chasing those opportunities through attracting the resources and setting up an enterprise or organization to manage those resources (Burton et al., 2002).

Entrepreneur: a business owner who can mobilize resources to his or her venture to pursue business opportunities and interests (Dubini and Aldrich,2002).

Profitability (rate of return): the net profit for a specific period is expressed as a percentage of the capital needed to produce this profit (Buzzell et al.,1975).

Competition: Is the process of persuading the consumers to choose their desired products or services from the range of available enterprises/firms to use or buy the product or services (Kunst, 2005).

Competitive advantage: Is an advantage created by the acquired valuable assets which other competitors find difficult to acquire or imitate (Morgan and Hunt, 1999).

Vision: Is an imagination of the new and better business environment the entrepreneur wishes to create (Sarasvathy,2001).

Mission: this positive sentiment defines the achievement of the particular venture (Dees and Anderson, 2003).

Strategy: This is how the venture achieves its aims (Spyropoulou et al., 2018).

Strategic positioning: Is when a venture plans its products/services to fit the group of customers, their needs, and technologies (Tallon and Kraemer, 2003).

Market positioning: This is the positioning of the venture's offering to fit the marketplace to improve competitive advantages (Zhou et al., 2009).

Sustainability- The term was defined as "the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (Hashim et al., 2023).

Leadership- is the ability of an individual or a group of individuals to influence and guide followers or other members of an organization (Samimi et al., 2022).

Performance – means the effective use of the needed skills, knowledge, and competencies (Tandiawan, 2022).

Competitiveness- refers to a business's ability to balance the price of their products and services with the quality to provide customers with the optimal experience (Sánchez-Gutiérrez et al., 2019).

Entrepreneurial performance- is the individual's ability to be effective in many careers (e.g., Medication, Store, Suppliers, Marketing, etc.) help to achieve better outcomes in negotiations to obtain business success (Zeb and Ihsan, 2020).

1.8 STUDY OUTLINE

This study is primarily concerned with the lack of entrepreneurial performance, leadership, competitiveness, social capital, and commercialization amongst most of the smallholder farming sector of South Africa. The invisible entrepreneurship features in this sector seemed to be the leading cause of the above challenges affecting these farmers.

Chapter 1 presents a background of smallholder farming, its sustainability, and its growth. The significance of the study, problem and thesis statements, limitations and delimitations of the study, and technical terminologies are outlined in this chapter.

Chapter 2 deals with reviewing the theoretical foundation of the current study. It starts by providing the background of the South African agricultural system, theories of smallholder peasant farming enterprises, and theoretical entrepreneurship framework. Next, it details management and leadership theories before summarizing the entire smallholder farming theoretical perspective.

Chapter 3 deals with the literature review; it starts by defining the concept of leadership, entrepreneurial leadership, entrepreneurship, and types of entrepreneurship in general. It also reviewed relevant theoretical frameworks and the global, continental, and local impact. Finally, the status of entrepreneurship in the smallholder farming sector is also presented.

Chapter 4 outlines the research methodologies utilized during the study. This chapter executed the planning and research processes of investigating smallholder farming.

The location, participants, aim, objectives, research designs, and research questions were identified. The data collection, sampling procedures, and models were specified. Reliability and validity procedures were identified and addressed. Ethical considerations were followed.

In Chapter 5, the descriptive analyses were presented. This includes, amongst others, the presentation of demographic representation information, characterization of the smallholder farming entrepreneurship, importance of the business performance, cluster analysis of the smallholder enterprises, and its correlations. Finally, the chapter concluded by presenting the lesson learned and its summary.

Chapter 6 has presented and discussed the inferential analyses. These analyses were presented based on the study objectives. Similarly, the chapter concluded by presenting the lesson learned from the analyses and ended up with the summary of the chapter.

Lastly, Chapter 7 has provided the conclusions together with recommendations which captured the recap of the study overview, its main findings, conclusions, implications, contributions, limitations, and future work.

This chapter is followed by the chapter that deals with theoretical foundation of the study.

CHAPTER TWO
THEORETICAL FOUNDATION/LENS

2.1 INTRODUCTION

This chapter presents the theoretical framework for smallholder farming entrepreneurship to dissect the evolution and the possibility of commercializing smallholder farming enterprises in South Africa. The presentation of this chapter starts with a discussion of the background of the agricultural system, followed by the theories of smallholder peasantry, the economics of smallholder household production behavior, and profit maximization. It includes neo-classic agricultural households' theories, risk aversion of smallholders, an entrepreneurial theoretical framework that includes new institutional economic theory, competence theory, resource theory, differential advantage theory, and management and leadership theories. Finally, neo-classic theories, including cognitive resource leadership and equity theories, were discussed under management and leadership theories. The conclusion of this chapter follows this.

2.2 THEORETICAL FRAMEWORK

It was necessary to premise this section with the background of the agricultural system within the theoretical context. Therefore, subsequent theoretical foundation deliberations were explicitly designed to provide smallholder peasant farming, entrepreneurship, and management theories.

2.2.1 Background: South African Agricultural system

The South African agricultural system is divided into commercial and smallholder farming (Aliber & Hall, 2012; Gwebu and Matthews, 2018; Hlatshwayo et al., 2021). The division is termed dualistic agricultural systems (Okunlola et al., 2016; Gwiriri et al., 2019). However, a dualistic agricultural system did not evolve from a prudent economic situation in South Africa. Instead, it evolved from the system of separate development that favored and nurtured white farming entrepreneurship to assume a commercial production level at the expense of non-white farming (Mmbengwa, 2009; Gwebu and Matthews, 2018). This happened through inadequate and incomprehensive support systems of the latter enterprises. Hence, non-white farming enterprises assumed a smallholding for livelihood production scale.

The presently elected democratic government sought to correct these disparities (Gwebu and Matthews, 2018). Since 1994, the South African Department of Agriculture, Forestry, and Fisheries (DAFF) has envisioned a united, non-racial agricultural development system that benefits all South Africans regardless of their race, belief, and association (NDA, 2001; Aliber & Hall 2012). The quest to develop non-white smallholder farming to be commercially viable was a top priority in the South African agricultural sector (Okunlola et al., 2016). However, twenty years of supporting these enterprises have yielded very little or no progress in achieving commercial viability of these enterprises (Blair et al., 2018). Can smallholder farming be transformed or graduated into semi-commercial enterprises where economic benefits could be derived beyond the livelihood household status?

2.2.2 Theories on smallholder ‘peasant’ farming enterprises

In other developing countries, smallholder "peasant" farming enterprises evolved due to the weaknesses of commercial farming enterprises (Windsor et al., 2018; Bryceson, 2019; Dung et al., 2021). Chauke and Anim (2013) reported that in the 1980s to 1990s, commercial farming could not address the rural poor's needs. This inability has ignited the establishment of smallholder enterprises. Consequently, the emergence of these farming systems brought about a shift in the policy focus of numerous developing countries seeking to support these smallholder farming sectors. This may imply that the developing countries had realized that smallholder farming enterprises were critically important for the needs of the poor rural communities and their economic developmental needs.

Although the evidence of the evolution of smallholder farming enterprises is undocumented mainly and insignificant to the South African agricultural conditions, smallholder farmers in South Africa are one of the economic engines in the poverty-stricken rural areas of the country. Moreover, some researchers (Abu, 2012 and Okunlola et al., 2016) believe that smallholder farming plays an instrumental role in providing food security to the rural and urban poor households of South Africa. This implies that although their insignificant growth as commercially viable enterprises is seen as an economic drawback to the crucial milestone in South Africa, their socio-economic impact has not been unnoticed.

2.2.2.1 Economic theories of peasant household production behavior

Smallholder farming is associated with peasant household agricultural activities (Bryceson, 2018). In South Africa, peasant household farming activities are termed subsistence farming (Okunlola et al., 2016). Given the existence of these farming enterprises, Mendola (2005) and Vergara-Camus (2021) have identified three alternative economic theories of the peasant household. Each alternative economic theory assumes that peasant households have an objective function to be exploited. However, these theories were based on broader economic assumptions about peasant production. However, these assumptions were not explained by those theories but were adopted to explain farm households using the same theoretical method (Mendola, 2005).

The "profit-maximizing" peasant (criticized because it neglects the feature of consumption in the process of farm household decision) was identified as the first alternative economic theory of peasant household behavior. Afterward, neoclassic Agro-household theory (which incorporates both the consumption and production objectives of peasant households) was identified as the second theory, which has become popular in agricultural economics. Thirdly, the risk aversion theory was crafted by other economists, which interpreted that the objective function of the farmer households was to guarantee the household's survival using averting risk (Mendola, 2005; Long and Roberts, 2021).

2.2.2.2 Profit-maximizing Peasant Theories

Economic theory has suggested that farmers could maximize the profitability of their farms rather than maximizing the output of one or more crops (Doss, 2018). Schultz (1964) hypothetically assumed that farming households in developing countries were poor but efficient, which sparked much debate among economists. According to Mendola (2005), Schultz's hypothesis referred to allocative and technical efficiency. In this case, he described the peasant production mode as a profit-maximization behavior. This author defined efficiency in the context of superb competition. In other words, the producers used the same prices while paying workers in the light of their marginal product value. In this way, inefficient firms go out of business. It further insinuates that entrepreneurs displayed non-diminishing marginal profitability and utility in the context of money income.

Mendola (2005) highlighted that several studies were conducted to test the efficiencies of peasants. These studies reflected on whether the enterprises maximized profit or not). However, other studies found differing results (Bliss and Stern 1982). Most work on inefficiency of profit maximization in peasant farming was possible due to the nature of the business enterprises. This refutes the assertion that the farm household efficiently allocates resources (Mendola, 2005).

2.2.2.3 Neoclassical agricultural household (Utility Maximization) Theories

The neo-classical economic theory asserts that production is primarily guided by technological innovation and institutional changes (Dorward, 2013). However, this researcher highlighted that the combination induced technical and institutional changes in business enterprises of factors such as new technology, institutions, resource endowments, and culture. Hence, the neoclassical theories are perceived to be driven by forces that seek to achieve the underlined philosophies of sustainable development.

In the South African agricultural sector, it appears that commercial farming sought to underpin their business practices on the neoclassical theoretical framework in that their businesses relied on adopting new technologies for their competitiveness (Jordaan et al., 2014). These farming enterprises were known for their well-organized institutions with adequately resourced and distinct farming cultures (Okunlola et al., 2016; Jordaan et al., 2014). Farmers in the commercial sector appeared to be grouped by commodity associations to adopt the new technological innovations and accompanied extension services quickly.

Conversely, smallholder farming lacked the family structure for their organization. Technology utility has been based on the availability and affordability of such technologies. Their production resources were mainly derived from the family reserves. These farmers do not have a distinct farming culture and organized institutions (Okunlola et al., 2016). To sum up the status of the agricultural system in South Africa, the term dualism is often used to aggregate this farming system where there have been two contrasting farming scenarios (Gwebu and Matthews, 2018).

The maximization theory of utility has been employed in smallholder agricultural production behavior (Mendola, 2005). However, the farmers' production behavior displayed a dual character (owner and consumer of the product) that was expected in smallholder farming. Therefore, Mendola (2005) recommended that the dual character of peasant farming be considered when applying the utility maximization theory to smallholder farming. For instance, applying these theories should include, amongst others, the influence of family size and the structure of smallholder farming (as tested in the Chayanovian model in the 1960s) (Chayanov 1966).

This Chayanovian framework significantly incorporated the concept of total household income (Becker 1965). Van Kooten (2021) conceived the farmer household as a production unit that can convert their resources, purchased goods, and services into effectiveness when consumed. Subsequently, the household's maximum utility obtained through consuming their products (such as market-purchased goods, leisure, and home-produced goods) was observed when income constraints were resolved (Mendola, 2005). In the framework, the variables such as the existence of the markets, tradeable goods, prices, and production decisions were isolated from consumption (that is, they are treated independently). In addition, critics of this theoretical model were particularly huge when risk aversion and uncertainty were acknowledged as factors that play a crucial role in the decision of farm household production.

2.2.2.4 The Risk-averse Peasant

The smallholder "peasants" farming production processes were known to be conducted under very high levels of uncertainty (Mendola, 2005; Ramprasad, 2018). The uncertainties were often prompted by climate change factors such as weather, pests, diseases, and natural disasters; market environment; and socio-economic uncertainties such as political instability, corruption, weak farming institutions, and insecurities associated with control over resources (Ellis, 1992; Lele et al., 2021). These factors pose production risks to the smallholder farming system and make peasants much more prudent and careful when deciding (Walker and Jodha, 1986; Manjula et al., 2021). Hence, these factors were generally assumed to influence the risk aversion by the smallholder farmers.

The criticism of Lipton's (1968) profit approach showed how the prevalence of uncertainties and risk factors could erode the theoretical basis for the profit-maximization model of the smallholder farming system. He argued that the environment in which small farmers operate makes them prune to avoid risk because they have to guarantee their household requirements and demands from the current production (Mendola, 2005). In essence, it appeared that household food security (in smallholder farming) takes priority over profit maximization. Where household food security is threatened, these farmers would choose food security relative to income maximization to avert the risk of household food insecurity (Lipton and Longhurst, 1989; Bergau et al., 2021).

There were two means of conceptualizing the risk-aversion of farmer households: the disaster avoidance approach and the standard expected utility theory (Mendola, 2005). Based on the former approach, peasant households made choices from available and accessible risky alternatives. Furthermore, this is based on what appealed to most of their given and designated preferences about results and consequences and their beliefs (Mendola, 2005). On the other hand, the theory of the normative approach was established on a series of assumptions (Mas-Colell et al. 1995) and on an indirect and implicit assumption that the decision-makers of the normative approach were effectiveness maximizers.

In addition, household behaviors and their disclosed viewpoint toward risk (for instance, risk hatred) were reflected in its utility function (Mendola, 2005). Meanwhile, a risk-averse peasant household would rather have a steady consumption way than a fluctuating one, which implies a low-risk portfolio of productive and generous activities in the contexts of under-developed institutional arrangements or incomplete capital markets (Morduch 1993). On the other hand, the risk complexity faced by farmers has caused some researchers to exploit choice models as allocative. Furthermore, this did not rely on the capability to compute expected returns for knowledge about the complex probability or significant numbers of alternative outlooks and prospects (Mendola, 2005).

The previous criticism of the utility theory was built on applying the risk-averse to the decision-making framework of the subsistence and livelihood of farmers in Southeast Asia (Roumasset 1976). This author asserted that the significant limitations of this theory were its bias to the indicators of risk aversion construct. The absence of decision costs in the framework was a serious omission. This omission is because the concept of expected utility maximization is explained as a full optimal model due to its reliance on the best choice of an individual. However, its inability to allude to the decision process that made the results possibly makes it ineffective under uncertainties. When the costs of getting and dealing with the information were considerable and substantial, an individual or peasant did not have to operate consistently with significant preferences (Roumasset 1976).

2.2.3 Entrepreneurship theoretical framework

Smallholder farming development was deemed an important strategic goal of the South African agricultural sector (DAFF, 2016) and its transformation into commercial farming is still highly prioritized (Fenyes et al., 1998, Van Rooyen and Nene, 1998). This study has identified some critical theories that could guide this sector to be entrepreneurial and evolve commercially viable to benefit the socio-economic environment. The subsequent sub-sections presented the theories to explain how they can intrinsically assist in this critical trajectory.

2.2.3.1 The New Institutional Economic (NIE) theory

The effect of poor market success, institutionalization, and the *ex-ante* abilities of farmer households to deal with the risk and allocate resources for farming has been explained in the profit maximization and neoclassical theories (Mendola, 2005; Mueller, 2018, Churski et al., 2021). However, Duflo and Kremer (2004) argued that neoclassical economic theories could not interpret farm household behavior as consequences of complexities beyond the household level. Thus, institutional imperfections and non-market behavior of the rational household appeared to add to some necessary complexities of understanding the smallholder farming environment. Therefore, the New Institutional Economic theory (NIE) appears to unpack the

behavior of economic agents and could, in a way, be influential in offering a good understanding of the complexities of these farmers.

Jordaan et al. (2014) reported that the social environment that forms part of the institutional arrangements (where smallholder farmers operate) includes the social dynamics within which the communities of farmers reside. Smallholder farmers (cooperative or individual farmers) have dynamics that cannot be ignored in the South African environment. These dynamics could affect the growth and sustainability of these farmers in several ways (Masamha et al., 2018; Adam et al., 2018). Without a comprehensive analysis of these complexities and social situations, the performance, growth, and sustainability of these farmers could be challenging to be enhanced.

Therefore, Chayanov envisaged the modernization of traditional small-holder farming as neither a socialist nor a capitalist peasant path but as farming that aimed at improving the agri-technical level using cooperative organization, agri-cooperatives and agricultural extension work (Harrison, 1975). This vision had some critical political implications in the current context of modern under-development. Regarding the institutional framework of these farming systems, capitalism seemed to be preferred as an economic system over other non-Capitalistic Economic Systems (slavery, communism, and family economy). A further category of the Chayanov institutional framework could lead to the natural and commodity economy (Harrison, 1975). According to this author, the latter economy could be roughly associated with "self-subsistent" and "market orientation."

2.2.3.2 Differential advantage (competitive advantage) theory

One of the hypotheses in neo-classical economics was produced homogeneity within industries and its heterogeneity between industries (Wickham, 2004). This assumption postulated that the product provided by all enterprises within industries were perfect replacements for each other. In a nutshell, this assumption suggested that products offered by industries were effectively identical as far as the buyers were concerned. This theory seemed to underline the principles of food safety standards. For example, food markets in South Africa have a similar comparison of the products produced by

farmers regardless of the scale of the farming operations. Products from different firms were assumed to be diverse and, thus, could not be replaced by each product. Various economists did not approve of these hypotheses (Chamberlin, 1933, Robinson 1933; Smith, 1956; Alderson, 1957; Mccarthy, 1960; Myers, 1996).

Wickham (2004) suggested that this theory postulates that firms within a particular industry provide heterogeneous products at a predetermined market price. Furthermore, this author reported that these firms actively market their products by differentiating them to suit a particular group of markets, often to satisfy a premium price over market standards. Ultimately, each producer's product was found to be different from the competitor's product; this is common among branded consumer goods. This creates a situation where each producer becomes a monopoly.

Chamberlin 1933 referred to this innovation as a competition between monopoly firms. Smith (1956) proposed that differences between products presented in a business depend on five things to the suppliers:

I. Information on markets.
II. Production procedure.
III. The firm’s varied resources.
IV. Invention research and expansion capabilities.
V. Quality control ideals.

This philosophy further suggested that the businessperson is fundamentally a dealer. He or she expresses the interest of the buyers who intend to buy goods, determining existing products' unsuccessfulness and innovating novel products that could better serve their interests. However, an entrepreneur or CEO does not just formulate a product; they position goods within a market to maximize their discrepancy from competitors and attract targeted customers. Thus, sustain his or her innovation within and manage the five factors (Smith, 1956; Wickham, 2004).

2.2.3.3 Resource-based theory

This theory was initiated by Penrose (1959), who emphasized that the internal aspects of the enterprise were critical determinants of good performance (Wickham, 2004). According to this author, this theory was conceptualized based on the following assumptions:

a) Resources are not regarded as inputs to production but collectively services that support production (resource bundles).
b) Distinct enterprises have disparate resources which are available to them (namely, resource heterogeneity).
c) There are some difficulties in shifting those resources between different enterprises.

The theory of the competitiveness of the enterprise may be because of the resource heterogeneity, and this competitiveness could manifest itself in the following circumstances:

a) Some enterprises may conduct better than their counterparts if the resources can better serve the competitive and complicated market.
b) Heterogeneity can only be preserved if the better-performing firms retain their resource foundation and their competitors or counterparts cannot simulate it.
c) A critical resource may be unique.
d) The causal relationship between the resulting performance and a complicated resource bundle may not be evident.
e) A competitor might be able to buy a tradable resource in the marketplace. However, non-tradable resources may only be accumulated over time. Moreover, time is a better-resourced competition that must obtain and preserve a winning edge.

Dierick and cool (1989) proposed that the captivating edge could be supported if non-tradable resources have the following five characteristics:

a) Good Reputation.
b) A firm brand name is associated with a quality product.
c) The combined resources are more effective than the existing resources.
d) Marketing is more effective when good research and development capabilities are implemented than without such intervention.
e) The resource can be preserved through further savings (capacity building of workers in goods distributors to keep them committed).
f) Unique value addition.

The implication to the entrepreneurs: When an entrepreneur is faced with an occasion or opportunity, he or she must acquire and access relevant resources. After that, they should coordinate and configure them appropriately to collectively convey the value in an exclusive and imitable way. However, this can go beyond first gaining the right resources and employing them resourcefully. It involves managing operational and higher-order procedures such as organizational experience, culture, and interacting relationships.

2.2.3.4 Competence-based theory

This theory postulated that competitiveness relies on resource inimitability (Wickham, 2004). Prahalad and Hamel (1990) suggested that producing better (highly demanded) products more quickly led to the product's competitiveness in the market environment. Not only should the product be highly demanded, but it should not be anticipated by the competitors so that it could be difficult to imitate. According to Wickham (2004), there are four core competencies for the enterprise to be competitive, namely:

a) The product must be accessed from a wide variety of markets.
b) The product should offer natural and perceivable benefits to the buyers.
c) The product should be challenging to imitate by competitors.
d) It should be extendable to other product markets in the future.

This theory offered more hope to entrepreneurs than the resource-based theory (Wickham, 2004). This relative advantage over resource-based theory stemmed from the fact that competency is conceived as embodied within the entrepreneur contrary to the notion of it being on the resource bundle. The entrepreneur in this theory is perceived as a businessperson who could (to a large degree) influence a radical and unanticipated innovation and could further exploit opportunity (Wickham, 2004). Given the performance of the smallholder entrepreneurs, it does appear that their perpetual failure to compete in the formal market calls for capacity building along with the four core competencies (DAFF, 2016).

2.3 MANAGEMENT AND LEADERSHIP THEORIES

Management and leadership theories are a group of assumptions advanced to deal with productivity and leadership matters (Smit et al., 2011). According to these authors, sound theories describe the circumstances under which they are or are not working. Knowing which theories work under what circumstances allows the entrepreneur to predict future success with a degree of confidence. These theories evolved from the neo-classic generation to contemporary theories.

2.3.1 Neo-classic theories

Under these theories, the two theories found relevant for this study were presented below:

2.3.1.1 Cognitive resource leadership theory

This theory projected that the group's performance of the firm has interacting results (Fiedler, 1986, Fiedler & Garcia, 1987). It assumed that capable and intelligent leaders could design better tactics and activities than leaders with less competence and intelligence (Wickham, 2004). This theory postulated that:

i. In a non-stressful and supportive environment, intelligent and clever leaders can accomplish good performance. Meanwhile, the absence of stress allows for attentive and satisfactory determination and direction of precisely what to do to achieve a good result.

ii. Experience leaders can achieve good results in a high-stress environment. However, drawing upon a wealth of experience, the opportunity to think could effectively ensure sound decision-making and actions in a low-stress environment.
iii. The team is inclined to conduct well in the intelligent leading of entrepreneurs who are not in a stressful environment.

The theory treats directorial behaviors as the most efficacious guidance for a relaxed and competent leader (Wickham, 2004). Meanwhile, cognitive resource theory demonstrates that the interchange among two leaders' traits (experience and intelligence, and two situational aspects of leader behavior (such as the nature of tasks and interpersonal stress) determine the performance (Buhler, 2001).

2.3.1.2 Equity theory

Stacey Adams developed this theory in 1963 to compare social environments (Buhler, 2001; Pageni, 2021). The objective of the theory was to ensure that inequalities were corrected. According to Buhler (2001), equity is a function of perception, and correcting the perception is critical in addressing the inequalities. Van Rooyen and Nene (1998) and Harloe (2021) have confirmed the inequalities created by the land Act of 1913 and 1936, the Agricultural Marketing Act of 1939, and the Agricultural cooperatives Act of 1970 on smallholder farming. These legislations created inequalities by excluding smallholder farming from the state-funded growth initiatives and thus rendered this sub-sector commercially unviable in favor of commercial farming.

Although the South African agricultural sector is committed to correcting these inequalities (DAFF, 2016 and Operation Phakisa, 2016), various authors think that the challenges are still enormous. The performance of these farmers in the commercial sphere leaves much to be desired. At the same point, Van Averbeke et al. (2011) explained that most smallholder irrigation schemes might perform under their potential. Their poor performance was regarded as a significant cause for concern.

Since 1994, policies have been developed, and funds have been invested in linking these farmers to the commercial agricultural value chain (Letsoalo and van Averbeke 2005). In addition, the South African government has also invested a large sum of money and funds in research projects to successfully link smallholder farmers to the revitalization processes (Demision and Manona, 2007; Dong, 2021). Despite these investments, smallholder farmers are unable to commercialize their products.

2.4 SUMMARY OF THE THEORETICAL LENS

All the theories have shown that resources, competitiveness, and leadership are crucial for commercialization. The theories also pointed out that smallholder farming has operated in a more challenging environment with less intelligent but experienced farmers. In South Africa, the literature showed that the dualistic agricultural ecosystem had constrained the prospects of commercialization of this farming system. Contrary to the experience of other developing countries (where the smallholder farming system was deliberately weakened to the advantage of the commercial agricultural system), the South African smallholder agricultural sub-sector has been a product of separate development policies which were reinforced to create a food security net for the black South Africans.

Globally, smallholder farming is an effective and efficient system that can create jobs, food security, and prosperity for agricultural entrepreneurs in rural and peri-urban areas. However, researchers disagree that smallholder farming is efficient and a profit maximizer in the context of allocative and technical efficiency. In addition, smallholder farming is blamed for their slow adoption of neo-classical agricultural innovations and therefore associated with the lack of family structure for their organization.

2.5 CONCLUSION

The review of the theoretical lens of this study seems to agree that smallholder farming development is a strategic priority of the South African agricultural landscape since South Africa is experiencing critical household food insecurity, joblessness, and inequalities. These are central terrains where smallholder farmers are known to excel in delivering. However, their social and economic dynamics necessitates the new institutional arrangements that would drive their competitive advantage. The competitive theories suggest that a smallholder farmer should be both an innovator and a marketer. Furthermore, for the smallholder farmers to succeed in the commercialization of the products, they should possess heterogeneous, mobile, and inimitable resources with competent and cognitive leadership skills.

CHAPTER THREE
LITERATURE REVIEW

3.1. INTRODUCTION AND BACKGROUND

The agricultural sector is essential in the South African society (Ijatuyi et al., 2017), and its role in the economy and social life of South Africans cannot be overemphasized (Groenewald, 1998; Ijatuyi et al., 2017; Nwaichi and Osuoha, 2021). However, Kutznets (1964) and Packard and Bylund (2018) warn against treating any sector as if it exists outside the influence of other economic sectors. This warning may imply that economic sectors are interdependent in contributing to their well-being. In the context of the interdependence of the sectors, the South African agricultural sector was deemed self-sufficient in producing agricultural products (Fenyes et al., 1998; Nthangeni, 2020). However, although this sector is self-reliant, some South African households experience some levels of food insecurity (Ngqangweni et al., 2015; Gwiriri and Bennett, 2020). According to the report by these authors, households adversely affected by food insecurity seem to come from predominately rural poverty-stricken areas where economic activities seem slow.

According to Groenewald (1998) and Figueroa et al. (2020), smallholder farming is associated with farming operated by black farmers in rural areas. This type of farming plays a critical role in the rural economy by providing food security and economic benefits to rural households (van Rooyen and Nene, 1998; Mulwa and Visser, 2020; Madsen et al., 2021). Groenewald (1998) highlighted the evidence that smallholder farming is a product of the dualistic nature of agriculture in South Africa. This section of the agricultural sector was grossly under-resourced during the apartheid era and operated within 13% of the land, as proclaimed by the land Act of 1913. Van Rooyen and Nene (1998) characterized this farming system as businesses developed separately from commercial farming with no protection compared to commercial farming enterprises. These authors have reflected on the insecurity and fragmentation of land rights as has been often operated in the communal land tenure system with a visible lack of infrastructural and financial support.

This chapter provides the current state of entrepreneurship, leadership, and economic viability of smallholder farming internationally, in Africa and South Africa, within the competitive entrepreneurship context. It has also provided a theoretical framework for South African smallholder farmers to use as a baseline standard to compare themselves. Above all, it has established any gaps in the body of knowledge regarding smallholder farming development that could be explored.

3.1.1 Definition of leadership concepts

Leadership is a complex concept to comprehend in current organizations and institutions (Belias et al., 2015; Gurr and Drysdale, 2020; Forman et al., 2021). Nevertheless, these authors pointed out that leaderships add significant value to organizational functioning, policies, and strategies. Defining the concept of leadership has not been easy (Sydänmaanlakka, 2003; Mendenhall et al., 2020; Aravik et al., 2020), yet its importance is quite considerable in organizational theory (Lee, 2011).

Amidst other definitions, Northouse (2010) proposed that leadership is a procedure whereby an individual inspires a group of people to realize an expected outcome. On the other hand, Richards and Engle (1986) and Woods et al. (2021) explained leadership as creating values and a conducive environment within which specific goals and aspirations could be achieved under the circumstances. These definitions appeared to reflect the main aim of the concept of leadership. In a nutshell, the leadership mentioned above suggested the central meaning of the goal of the leadership activities. A leader is responsible for ensuring that followers can achieve a shared vision and mission through careful stewardship of their leaders (Hersey and Blanchard, 1982; Lumpkin and Achen, 2018; Jaén et al., 2021).

3.1.2 Entrepreneurial leadership

Entrepreneurial leadership is an unpopular concept in the South African agricultural sector (as a whole) (Leonard 2018; Moodley 2020; Gaffley and Pelser 2021). Contemporary studies associated entrepreneurial leadership as a novel way of comprehending entrepreneurs (Karmarkar et al., 2014; Rezaei-Moghaddam and Izadi, 2019). In the South African commercial farming context, this type of leadership is often referred to as agri-business leadership. On the contrary, smallholder farming neither uses entrepreneurial leadership nor agri-business leadership because smallholder farming focuses more on livelihood (food security) than profit-making or trade. Although this concept is unpopular in the South African agricultural sector, dissecting what it means and its importance in the growth and advancement of enterprises, in general, is essential. Understanding the meaning of the entrepreneurial leadership concept requires, amongst others, understanding the concept of leadership because the entrepreneurial leadership concept is derived from both entrepreneurship and leadership combined.

3.1.2.1 Defining the concept of entrepreneurial leadership

The leadership concept is widely researched (Gupta et al., 2004; Hussain et al., 2020; Armstrong and McCain, 2021). According to these authors, leadership essentially involves a mutual commitment between a leader and a group of followers to pursue a collective goal. The entrepreneurial leadership constructs appeared to be a hybrid of leadership and entrepreneurship (He, 2014; Al-Khalifah, 2014; Cornelissen et al., 2021). This construct has been studied under corporate entrepreneurship (He, 2014; Ziyae and Sadeghi, 2020). Patterson et al. (2012) defined entrepreneurial leadership as leadership that seeks to achieve a new outcome that innovates growth and development by learning from past leadership styles to deal with future challenges. Al-Khalifah (2014) and Glinyanova et al. (2021) reported that entrepreneurial leadership involves managing an organization using culture and relationships rather than control or command.

Entrepreneurial leaders are appraised for handling and dealing with risk, uncertainty, and ambiguity uniquely compared to ordinary leaders in society (Burns, 2007; Katsaros et al., 2020; Pring et al., 2021). Thus, Al-Khalifah, (2014) has further modified the definition of entrepreneurial leadership to mean guidance that makes visionary set-ups employed to accumulate and facilitate an accessorial cast of participators who become committed to the discovery vision and taking advantage of strategic value creation. On the other hand, McCarthy et al. (2010) supported the tacit definition that Gupta et al.'s (2004) associated entrepreneurial leadership with the capability to impact others by managing resources purposefully to improve the entrepreneur's business acumen.

3.1.3 Entrepreneurship

Entrepreneurship is perceived as a powerful engine to drive the economy of most nations (Karmarkar et al., 2014; Zafar and Mustafa, 2017; Bhatia et al., 2021). The use of entrepreneurship philosophy and education has enhanced the competitiveness of enterprises across the globe. The condition for the businessperson to be prosperous in his or her business venture, it is necessary that he or she should possess unique qualities that are as follows: creativity, locus of control, and risk-taking propensity. Without the quality above, an entrepreneur may not cope with the new competitive landscape (Hitt and Reed, 2000; Withers et al., 2018, Yu et al., 2020). Wennekers et al. (2005); and Bozoki & Richter (2016) reported that there seemed to be an association between entrepreneurship and economic growth. However, the associative effects were not highlighted.

3.1.3.1 Evolution of entrepreneurship concepts

The evolution of corporate entrepreneurship has (like in leadership concept) also brought complexities in its definition (Sharma and Chrisman, 2007; Heide et al., 2018). Hence, it is well known that the term "entrepreneurship" means different things to distinct people {(Gartner, 1990; McMullan & Long, 1990; Ratten and Jones, 2020; Zahra, 2021). Although the concept has a variety of meanings, its historical evolution has been presented by various authors in critical entrepreneurship studies (e.g., Gartner, 1988; Hisrich, 1986; Livesay, 1982; McMullan & Long, 1983 and McMullan & Long, 1990; Pedersen et al., 2020). The root of the evolution of this concept could be traced from Richard Cantillon's work of 1734, which seems to suggest that entrepreneurship indicated self-employment with a tentative return (McMullan & Long, 1990).

In 1934, Schumpeter defined entrepreneurship as a process that brings about novel products, markets, organizational forms, processes, or supply sources through various combinations (Sharma and Chrisman, 2007; Pedersen et al., 2020; Callegari and Feder, 2021). In addition, the study by Gartner (1990) identified entrepreneurship with innovation, growth, uniqueness, and value creation. This seemed to imply that, unlike other authors, Gartner locates the concept of entrepreneurship within the creation and functionality of organizations and enterprises. Kuratko (2007b) subsequently attempted to develop a concept of entrepreneurial intensity (EI) to assess the level of entrepreneurship. EI has three dimensions: risk-taking, innovativeness, and pro-activeness (He, 2014).

3.1.4 Types of entrepreneurship

Cunningham and Lischeron (1991) and Youssef (2021) identified the entrepreneurship discipline as follows: leadership; the "great person"; management; classical; psychological characteristics; and intrapreneurship schools. In this study of advancing the economic viability of smallholder farming in South Africa, it appeared that of all six entrepreneurial schools of thought, four, except classical and management schools of entrepreneurship, are relevant for this study.

3.1.4.1 Great person entrepreneurship

The first school of thought is excellent entrepreneurship (Etemad et al., 2021). This school of thought was initiated in the early 20th century (Antonakis et al., 2004). It was known that this school of thought has now evolved into trait theories (He, 2014, Karmarkar et al., 2014). In the early 1900s, when these leadership theories took the central stage, it was revealed that it failed to uncover whether leadership was inherited or acquired despite its popularity in that period. In this period, it was documented that this theory could only assert the difference in the acceptance of the leaders by the community (Kirkpatrick and Locke, 1991). The failure of the trait theory to clarify whether the excellent man philosophy of entrepreneurship is a result of heredity has led this type of entrepreneurship to be associated with other personalities, motives, capacities, and behavior (Baum et al., 2007; He, 2014; Kuechle 2019 and Benzie 2021).

3.1.4.2 Psychological characteristics entrepreneurship

The current literature revealed that this entrepreneurial school was constituted by distinctive personality traits and characteristics (He, 2014; Autio et al., 2018; Arenius et al., 2021). In this regard, the distinctive personality traits and characteristics appeared to be associated with the entrepreneur's ability to identify financial and non-financial business factors (Carland et al., 1996, Vecchio, 2003). Various authors believed that entrepreneurs' distinctive characteristic must be innovation (Schumpeter, 1934; Carland et al., 1984). However, McClelland (1976) seemed to think that the need for achievement should be the underlying characteristic of the entrepreneur. On the other hand, He (2014) and Barnard and Herbst (2018) seem to think that entrepreneurs should be intuitive and creative in their approach to entrepreneurship. Given these arguments, it is unclear whether entrepreneurs need all these attributes or should have one at the expense of the other. In addition, Vecchio (2003) believed that a cluster of personality factors in entrepreneurship, such as the tendency for risk-taking, the necessity for achievement, autonomy, self-efficacy, overconfidence, and locus of control, was ideal for success in entrepreneurship endeavors.

3.1.4.3 Management leadership in entrepreneurship

Entrepreneurship studies are not complete without including leadership in entrepreneurship (He, 2014; Newman et al.,2018; Farrukh et al., 2019; Kacperczyk and Younkin, 2021). Management of entrepreneurship forms an integral part of entrepreneurial leadership. Its importance has undoubtedly been determined by entrepreneurial success. However, He (2014) reported that entrepreneurship research tended not to report issues about entrepreneurship leadership (Jensen & Luthans, 2006b). Recent development has shown that scholars have changed their attitudes regarding excluding leadership in entrepreneurship discourse (Kempster & Cope, 2010). Incorporating management leadership in entrepreneurial qualities has provided new hope (Gupta et al., 2004), and researchers in entrepreneurship have kick-started drafting leadership research regarding inspiration (Harrison & Leitch, 1994).

3.1.4.4 Entrepreneurship or corporate entrepreneurship

Intrapreneurship is a modern type of entrepreneurship (Nieman et al., 2004; Monfared et al., 2019; Piecuch and Szczygieł, 2021). This type of entrepreneurship originated in early 1985 (Pinchot, 2000). Its objective was to harness the drive, creativity, vision, and entrepreneurship ambitions within the existing businesses. According to He (2014), the 'intrapreneurship' school of entrepreneurship focuses on entrepreneurial activities within organizations and relates the success of entrepreneurship to the managers' ability to exploit entrepreneurial opportunities. The intrapreneur or modal entrepreneurs are entrepreneurs employed by a corporation and are responsible to the board of directors (Hrensson, 1997; Curtis et al., 2020; Ghosh et al., 2021). According to Nieman et al. (2004), these entrepreneurs are preferred by established businesses because they provide them with new ideas and creativity.

3.1.5 The benefits of intrapreneurship

Entrepreneurship is an invention that seeks to enable the success of entrepreneurship activities (Nieman et al., 2004; Gruber and MacMillan, 2017; Cunningham et al., 2019; Baumol, 2021). Intrapreneurs play notable critical roles in ensuring the venture's success. Such roles were mentioned below as articulated by Nieman et al. (2004):

- Initiator: Intrapreneurs trigger entrepreneurship either as champions or advisors.
- Sponsor/facilitator: Intrapreneurs are mentors or promoters of the newly established product.
- Champion/manager: The intrapreneurs often lead the project and implement it.
- Team supporter: Intrapreneurs often provide the team with the necessary expertise.
- Critics: Intrapreneurs often critic the enterprise's strategic direction and, at the same time, provide alternative solutions or new directions.
- Business Intelligence: Intrapreneurs often supply the much-needed business intelligence.

3.1.6 The benefits of entrepreneurship and its leadership

Cantillon founded the concept of entrepreneurship in 1734 (Sharma and Chrisman, 2007; Thornton, 2020; Prince et al., 2021). It was referred to as a process of forming self-employment with an uncertain return by Cantillon (McMullan and Long, 1990; Mwatsika, 2021). Subsequently, in 1934, Schumpeter provided a different definition of entrepreneurship, whereby his assertion of the concept of entrepreneurship outlined the products associated with this concept. Sharma and Chrisman (2007) reported that Schumpeter further defined entrepreneurship as an outcome that may result in new products, markets, and processes, suppliers and manufacturers. This imply that Schumpeter's definition of this concept signifies the formation of innovations. Sharma and Chrisman (2007) reported that Gartner specified entrepreneurship as creating organizations.

The creation of any enterprise, regardless of size and scale, indicated entrepreneurship. Hence, forming smallholder farming could be defined as an act of entrepreneurship. Smallholder farmers are entrepreneurs; therefore, growing it to a specific production level may require some entrepreneurial leadership. The entrepreneurship leadership construct was derived from various definitions of leadership (Gupta et al., 2004; Banks et al., 2018; Kim and Mason, 2020). According to these authors, quality leadership enables the mutual relationship between a leader and a group of followers to pursue a collective goal. In the context of smallholder farming, entrepreneurship leadership could build cohorts of farmers who could improve their ability to supply the required quality and quantity of products in the niche markets by satisfying the market with required safety standards consistently with notable traceability of their products (Vorley et al., 2009; Reitan and Stenberg 2019; Perryman 2021).

3.2 GLOBAL PERSPECTIVE ON THE IMPACT OF ENTREPRENEURSHIP

Peroni et al. (2017) reported that more than two-thirds of the adult population in sixty-two economies worldwide believed that entrepreneurs were well-regarded and enjoyed high status within their societies. This report indicates that entrepreneurship generally has a positive impact on society. However, although entrepreneurship positively impacts societal perceptions, countries do not demonstrate the same attitudes toward entrepreneurship.

In addition, the report showed that two-thirds (66%) of the adult population in efficiency-driven economies such as the Republic of South Africa consider starting a promising business career relative to 60% of the factor and innovation-driven economies such as developed countries. In Africa, 75% of working adults regard entrepreneurship as their career choice. These results make developing countries fertile ground for entrepreneurship development. In the developed continents such as Europe and North America, a quarter (25%) of their entrepreneurship activities comes from the retail /wholesale sector, whereas 58% of the entrepreneurs come from the Caribbean and Latin America; on the other hand, 50% of Africa's entrepreneurs come from the wholesale and retail sector.

3.2.1 Impact of entrepreneurship activities

Entrepreneurs are essential in the development of society (Peroni et al., 2017; Raithel et al., 2021). However, it seems that their impact differs along with their societal conditions. Key to economic development (as induced by entrepreneurs) is the job creation and level of innovation (Herrington, Kew. and Kew, 2014; Bărbulescu et al., 2021; Shkabatur et al., 2021). These impacts on the economies differ from one continent to the other.

3.2.2 Entrepreneurship's impact on job creation

In the African continent, Peroni et al. (2017) and Manzano-García et al. (2021) reported that an average of 35% of entrepreneurs do not aspire to bring about new jobs for their society. Furthermore, this report highlighted that in the African continent, countries such as Burkina Faso and South Africa have 85% of entrepreneurs generating jobs. On the other hand, in the European and Asian, and Oceania regions, it was found that the highest proportion of entrepreneurs (47%) do not have job creation aspirations. Furthermore, it was reported that there are extensively differing objectives amongst individual economies regarding job creation in Latin America and the Caribbean.

Peroni et al. (2017) reported that in the Caribbean and Latin America, job creation ranges between 12.5% in Colombia and 88.3% in Jamaica, while in Oceania and Asia, job creation ranges from 23.2% in Qatar to 86.1% in Saudi Arabia. In addition, the report has highlighted that North America has the most percentage (25%) of middle-to-high growing leaders, followed by Oceania and Asia (23%). On the other hand, the Caribbean and Latin America have the lowest specific weight (17%). Furthermore, three economies in Oceania and Asia exhibited the highest rates of entrepreneurs hoping to create more jobs (Peroni et al., 2017; Ismail et al., 2018; Sarfaraz, 2020; Fernandez, 2021). These results appeared to confirm that entrepreneurs on various continents have a varying impact on job creation for society.

3.2.3 Impact of innovation on entrepreneurship

At a regional level, innovation intensity was found to be highest in North America (39%) and the lowest in Africa (20%) (Dutta et al., 2020; Lopes et al., 2021). In addition, in the context of the personal economies, Lebanon and Chile reported the highest innovation levels– more than half of the business executives in these two economies had produced novel commodities for some or all customers. Meanwhile, few/ no businesses can provide the same product. However, the lowest innovation rates (5% or less) were found in Russia and Malaysia (Peroni et al., 2017). Several economies showed robust levels of innovation, always coupled with an encouraging trend of high total early-stage entrepreneurial activity (TEA) rates.

Innovation and entrepreneurship are closely related concepts (Peroni et al., 2017; Singer and Broersma, 2020). Horbach and Rammer (2021) reported that innovation was instrumental in launching the novel product-market amalgamation into the market. The action of introducing the new product makes the old product to be less demanded. Small businesses often play a catalytic role in innovation and competition, thereby contributing to the creation and strengthening of the market economy (Abraham et al., 2015; Kluvankova et al., 2021).

Entrepreneurs must detect novel market criteria and develop inventive ways to provide, transfer and improve their product offerings to commercialize their innovations (Peroni et al., 2017; Si et al., 2021). In a higher-productivity sector, Peroni et al. (2017) reported that innovation capabilities are essential to stimulate the competitiveness of the different economies. Thus, in an innovation-driven economy, it was found that, on average, the level of innovation increases with the entrepreneurship development level. In addition, it was also found that more innovativeness occurs about new products in the market and within their respective industries if entrepreneurship is taken seriously (Peroni et al., 2017; Skordoulis et al., 2020; Hameed et al., 2021).

Furthermore, the GEM global report postulated several reasons for the consistent findings of the assertion that innovation interlink with the development level of the entrepreneurs (GEM 2015). First, the innovative capacity of entrepreneurs is influenced by their educational exposure. Hence, more developed countries tended to provide higher education levels and various industry fields, with higher participation levels in more intricate and sophisticated scopes, such as communication technology, information management, and professional service industries (Peroni et al., 2017).

3.3 AFRICAN PERSPECTIVE ON THE IMPACT OF ENTREPRENEURSHIP

Africa as a region has recorded the most positive attitudes towards entrepreneurship (Asche 2021). It is reported that three-quarters of work-seeking adults believe entrepreneurship is an excellent career choice. Other studies reported that 77% of entrepreneurs are admired in their societies (Peroni et al., 2017; Iwara, 2020; Agu Igwe and Ochinanwata, 2021). Furthermore, Twum et al. (2021) highlighted that African individuals possess the highest levels or standards of entrepreneurial purpose (42%). On the other hand, those stakeholders in the Caribbean and Latin America demonstrated that the highest percentage of capabilities was 63%, and the second-highest rate of entrepreneurial intention was 32%.

In addition, less than 40% of European participants become aware of opportunities in their scope, while less than 0.5% accept as accurate that they can chase entrepreneurial opportunities (Peroni et al., 2017; Smit et al., 2020). Again, Peroni et al. (2017) reported that early-stage entrepreneurial activity (TEA) rates were the highest in Latin America, the Caribbean, and Africa at a regional level. However, Europe reported the lowest average regional TEA rates (half of the LAC region and Africa). On the contrary, Peroni et al. (2017) have reported that entrepreneurial employee activity (EEA) was the highest in North America (6.5%) and Europe (4%) and the lowest in Africa (1%). Peroni et al. (2017) and Henley (2021) also pointed out that, on average, Africa has a minor proportion of non-employer entrepreneurs (35%).

In addition, Xavier et al. (2012) reported that various African governments had advanced important business policies to stimulate and develop business creation. In most cases, government initiatives to support business creations were done with the public, private, NGOs, and civil society. African government policies seemed to affirm entrepreneurship as essential to business success. In addition, some parts of the African continent (such as Uganda, South Africa, etc.) tended to use successful entrepreneurs as role models and leaders to build capacity for young entrepreneurs (Xavier et al., 2012).

Another factor that has constrained African entrepreneurship successes is the lack of education. Inadequate entrepreneurship education (in most parts of Africa) has deterred youth from taking entrepreneurship leadership as their career, making it impossible for them to take over the business whenever the succession phase trickles into their family businesses. This is attributed to the most failure rate (fear of failure) of African businesses. Therefore, quality entrepreneurship education seemed to provide a sound foundation for entrepreneurship skills required to run a business, and thus, its inadequacy could present a severe handicap to anyone contemplating setting up their venture (Xavier et al., 2012). According to this GEM report, two-thirds of those consider business a career with a high school qualification, or higher, while over half have some university experience. Furthermore, this report indicates that those with university qualifications have confidence, networks, and requisite skills to run a business.

3.3.1 Impact of entrepreneurship on job creation

A crucial focus for many economies is to advance strategies that facilitate growth, sustainability, and inclusiveness to create extensive employment and reduce poverty in their communities (Peroni et al., 2017; Patnaik and Bhowmick, 2020; Chen and Sivakumar, 2021). The evaluation of global entrepreneurship has attempted to measure entrepreneurship activities' impact on job creation and economic growth. Peroni et al. (2017) and Farinha et al. (2020) have interpreted that the efficiency-driven economies (Egypt, Morocco, South Africa, etc.) have a higher level of entrepreneurship such that they score higher on their average non-employer leaders (46%) who were involved in the factor- and innovation-driven countries are found to be lagging by 2% on their non-employer economic activities. The difference between medium and high-growth entrepreneurs (such as the project or company to employ five or more employers in the next five years) was found to be non-significant.

Peroni et al. (2017) found that a quarter of businesspeople in innovation-driven economic groups show higher-growth ambitions than a fifth inefficient- and factor-driven economies. Table 3.1 indicates the geographical classification of different countries within global economies. For example, two economies in the African continent (i.e., South Africa and Burkina Faso) were very optimistic about more than 85% of entrepreneurs generating jobs in the next five years (Peroni et al., 2017). This report has demonstrated that entrepreneurship is an essential source of job creation.

Table 3.1: Global Entrepreneurship Monitor (GEM) economies by economic development level and geographic region

Geographical Regions	Factor-driven	Efficient-driven	Innovation-driven
Africa	Burkina Faso Senegal Cameroon	Morocco Egypt South Africa	
Asia & Oceania	India Iran Kazakhstan	China Georgia Indonesia Jordan Lebanon Malaysia, Saudi Arabia, Thailand Turkey	Australia Israel Qatar Hong Kong Republic of South Korea, Taiwan, United Arab Emirates
Latin America & Caribbean		Belize Argentina Chile Brazil Colombia Guatemala El Salvador Ecuador Jamaica Peru Panama Mexico Uruguay	Puerto Rico
Europe	Russian Federation	Hungary Croatia Bulgaria Poland Latvia Macedonia Slovakia	Austria Estonia Finland Cyprus France Greece Germany Ireland, Italy, Luxembourg, Netherlands Slovenia Portugal Spain Sweden, Switzerland
North America			Canada United States

Source: Peroni et al. (2017)

3.3.2 Impact of entrepreneurship on business failure and profitability

The global business failure or discontinuation was caused by a lack of consistent business profitability (Chien et al., 2021). Entrepreneurs in the Caribbean, Africa, and Latin America are highly likely to recognize financial problems as the motive for business shutdowns (Jungo et al., 2021). In the Peroni et al. (2017) report, 41% of respondents cited a lack of business profitability, while 13% and 17% cited problems with obtaining finance as a cause of business failure. Likewise, Herrington and Kew (2016) reported that in 2012, most countries found that the leading causes of business discontinuance were financial problems. Furthermore, 39% of business cessions in Namibia were reported to be difficulties in raising finance (Herrington and Kew, 2016). However, it was also reported that Africa has difficulties providing finances to its entrepreneurs to avoid business failure. Two-thirds of South Africans have reported that they relinquished their enterprise due to a lack of funding and low profitability of the enterprises (Herrington and Kew, 2016).

3.3.3 Southern African Development Community (SADC) perspective on the impact of entrepreneurship

In this region, it was also revealed that entrepreneurship has a varying impact (Peroni et al., 2017). For instance, In Angola, most entrepreneurs are of adult age and practice their trade in the vast numbers of retail, hotel, or restaurant businesses; some activities were practiced in the government departments such as the health, education, and social services sector. On the other hand, Botswana was reported to have potential entrepreneurs to a slight extent (whose beliefs are regarding their capabilities and opportunities). Furthermore, Botswana's society does not generally link entrepreneurship with high social status (Peroni et al., 2017). It was further highlighted that everyday entrepreneurial purposes and objectives in Ethiopia were going along with higher-than-average fear of business failure rates and less visibility in the media context. However, high standing is granted to entrepreneurs.

In Malawi**,** entrepreneurship is defined by high intentions, the lowest fearfulness of failure level in that area, and above-average consciousness about capabilities and opportunities (Peroni et al., 2017). Entrepreneurs in Malawi have low educational levels and low job creation ability. The country has the highest self-employment levels in the region. On the one hand, 57% of entrepreneurs' projects would not have new jobs in the next five years. On the other hand, entrepreneurship displays few industries participation. Moreover, 76% of entrepreneurial activities are in the hotel, retail, and restaurant sectors. Meanwhile, 10% are in two other sectors (manufacturing and agriculture).

Peroni et al. (2017) reported that Namibia has high publicity for entrepreneurship. However, stakeholders in Namibia have above-average fear and trepidation of business failure. The levels of TEA are lower than the average value. However, it is reported that future job creation expectations were high. Peroni et al. (2017) revealed an ample provision of potential entrepreneurs in Ghana with high consciousness regarding their capabilities and opportunities for commencing businesses and low fear of business failure.

Social feelings and impressions about these activities were very positive. The rates of established business ownership and TEA were high, implying that there were lots of start-up endeavors and long-term sustainability. Moreover, entrepreneurs intended to be younger, with relatively low educational levels. Furthermore, entrepreneurship fundamentally employs the method and form of self-employment rather than employment opportunities for other stakeholders (Peroni et al., 2017).

According to this report, job creation in the future is comparatively low, while 30% of participants could have no jobs in the incoming five years. At the same time, innovation levels are relatively low, with 86% of respondents demonstrating that their customers could not choose their products and services. However, Ghana has the highest entrepreneurship level in the context of agriculture. In Nigeria, Peroni et al. (2017) highlighted that entrepreneurs have below-average consternation about business failure levels, and they consider entrepreneurship as an excellent career opportunity. The TEA rate was above average, and the discontinuation level was below average.

Although entrepreneurs have high expectations of growth, one-third of participants anticipated creating more opportunities for employment in the upcoming five years (Peroni et al., 2017).

Peroni et al. (2017) uncovered that South Africa has the lowest TEA rates and low societal attitudes toward entrepreneurship status in the SADC region. In addition, the country has low media reports on entrepreneurship (Fan et al., 2021). The report further highlighted South Africa has low entrepreneurship opportunity and capability perceptions (Peroni et al., 2017). The country also has a higher level than the average value of business failure and the lowest entrepreneurial intention levels among the SSA countries (Chigunta 2017). In a nutshell, it also has the lowest ownership rates of an established business.

Characteristically, South Africa has older entrepreneurs, and women's participation in entrepreneurship activities is two-thirds of men's (Shetty 2021). Despite low-level of participation in entrepreneurial activities, most entrepreneurs were employers. Although 13% of participants currently employed more than five employees, 35% anticipated creating more than five positions in their enterprises in the upcoming five years (Chigunta 2017). Moreover, more and more entrepreneurs in the country expected their products or services to be novel, while some customers considered the competitors had the potential to offer similar provisions and offerings (Chigunta 2017).

3.3.4 State of entrepreneurship in South Africa

Herrington, Kew, and Kew (2015) reported that South Africans were entrepreneurial at an active economic age (i.e., between 25 and 44 years). However, it was also revealed that South Africans involved in early-stage entrepreneurial activity at a younger age (i.e., 18- to 24-year-olds) were considerably lower than the average of the African continent. Compared to the African continent, the entrepreneurial activities in the 25-to-34-year age cohort of South African entrepreneurs are less than half of Africa's average population and are considerably lower than the average for efficiency-driven economies (18%).

Herrington, Kew, and Kew (2015) have further reported a significant gender gap in entrepreneurial involvement where the early-stage entrepreneurship engagement by women was significantly lower than that of male counterparts. Furthermore, the ratio of female to male TEA activity was also substantially lower than the averages for both the African region and the efficiency-driven economies (Herrington, Kew, and Kew, 2015). This ratio indicated that initiatives that sought to empower women's participation in the mainstream economic sphere had a minor impact.

3.3.4.1 Challenges affecting entrepreneurship in South Africa

South Africa (like any other African country) has various challenges to overcome to benefit from its entrepreneurship activities. Some of these challenges are briefly explained below. The objectives of this explanation were to reveal the essential constraints that could obstruct the progress of the implementation of entrepreneurial activities.

3.3.4.1.1 Early-stage entrepreneurial activities

Herrington, Kew, and Kew (2015) revealed that black Africans constituted most of South Africa's early-period entrepreneurs in South Africa. These activities seem to be influenced by the proportion of black Africans in South Africa's population. These authors reported that in 2013 and 2014, roughly 85% of South Africa's early-period entrepreneurs or business people were Black Africans. Furthermore, the same authors reported a decline in early-stage entrepreneurs from 85% to 68% in 2015.

However, an increase has been shown in all three population groups of TEA involvement. However, Indians have two-timed expansion of their TEA involvement since 2014, while white early-period enterprisers are almost triple their 2014 levels (Herrington, Kew, and Kew, 2015). The decline in black African entrepreneurship could result from the lack of mentorship, low support, and a decline in government support in the current economic and political dimensions.

3.3.4.1.2 Government policies on agricultural development

The development of the South African agri-sector is premised within the context of the developmental state. The conceptualization of the developmental state related to rural development suggests that smallholder farming is prioritized for government support and policy bias. Thus, the government is alleged to be able to direct and support economic development activities by shaping the structure and outputs of the economy through reliable public service, creating an investor-friendly environment, thriving small business development, and strategic investment initiatives (Makhura, 2016). This author has demonstrated that since 1994, the South African agricultural sector has developed various policies and initiatives to develop the agricultural sector.

In 1994, the South African agricultural sector broadened its agricultural thrust (BATAT) policy. This policy was produced after the production of white paper in agriculture. Land reform was introduced in 1995, followed by an agricultural sector strategy. These policies were followed by the integrated sustainable rural development strategy (ISRDS) in 2001, AgriBBE in 2013, which was then followed by the Land & Agrarian Reform Program (LARP), Comprehensive rural development program, integrated growth & development plan, National development plan (NDP), New growth plan (NGP) and Nine-point plan. All these plans, policies, and strategies were initiated to guarantee that the agri-sector in South Africa plays a significant role in the South African economy and thereby creates employment and food security for poor South African communities (Taruvinga et al., 2017).

Aliber and Mdoda (2015) reported that about 2.31 million black farming households are involved in subsistence agricultural production, and 167 000 smallholder households are engaged in agriculture and derive extra income from smallholder agricultural production. Of the 167 000 smallholder households, 80% were found in the former homelands, 13% were in informal urban areas, and 7% were in urban informal and formal rural areas. These results imply that smallholder households are widely spread throughout South African society and could be the cornerstone of agricultural development should they receive adequate support.

3.3.4.1.3 Access to finance

The commission for National Planning (NPC) advocates for South Africa's rural communities to participate significantly in their country's economic, social, and political life (Jordaan et al., 2014). According to these authors, the government believes smallholder farming could significantly reduce food insecurity. Furthermore, Backerberg and Sanewe (2010) pointed out that agriculture devotes outstandingly to developing the economy and rural livelihood by supplying food products, income earnings, processing, distribution, and retailing products for rural communities. Therefore, smallholder farming is expected to play a crucial role in rural economic growth (Jordaan et al., 2014). In addition, these farmers often choose informal markets when trading their products.

Although informal markets are accessible to these farmers, the demand for the goods and services is lower than in the traditional markets due to perceived food safety standards (Mmbengwa, 2009). Mmbando et al. (2016) have reported that credit access was one of the factors that influenced the choice of the market that smallholder farmers choose and concluded that smallholder farmers who choose wholesalers relative to brokers have access to credit, high education, membership of the association, high premiums, access to roads and market information.

Ndoro & Hitayezu (2014) also confirmed the importance of access to finance as one of the crucial factors influencing smallholder business viability by enabling market participation. According to Hall and Kepe (2017), the South African government has invested R2 billion in the land reform program (aiming to ensure that more commercial farming enterprises are generated from historically disadvantaged individuals). These communities are those whose farming is mainly smallholder and subsistence.

3.3.4.1.4 Education and training

In 2015, it was reported that two-thirds of early-period entrepreneurs in South Africa had a secondary certificate or qualification (Herrington et al., 2015; Levie and Mwaura, 2021). However, Herrington et al. (2015) reported that the proportion of South African enterprises with third education or qualification has also risen steadily over the years. The same report highlighted that almost a fifth of all early-stage entrepreneurs have postsecondary qualifications (Herrington et al., 2015; Bedi, 2021). In addition, Adeoti, Cofie, and Oladele (2012) confirmed that higher education positively impacts non-farm employment (β = 0.151, P=0.001).

On the contrary, Olubenga and Adeoti (2011) revealed that education significantly negatively influences participation in the subsistence farming program (β= -0.0079, P=0.05). However, higher educational status was one of the critical determinants of market participation in smallholder farming amongst maize producers in the Oyo state of Nigeria (Adeoti, 2014).

Bellmare (2011) revealed that education (β= 0.006, p= 0.00), household size (β= 0.045, p= 0.00), increase in age (β= 0.011, p= 0.05, working capital (β= 0.006, p= 0.00) and assets (β= 0.007, p= 0.00) were more likely to increase household income. In addition, Zhang & Arvey (2009) showed that educational achievements have a positive correlation with earnings (r = 0.34, p< 0.05), large city (r = 0.20, p< 0.05) and a negative correlation with work experience (r = -0.9, p<0.05). Given the importance of education and its correlations with various factors that induce business viability, it is essential to ensure that smallholder farmers receive adequate education and training. Access to quality education and training is essential and must be routinely provided through efficient and effective extension advisory services through participatory approaches (DAFF, 2016).

3.3.4.1.5 Research and development

Research information and technology were crucial to business success (Michaelson, 2001). This author reported that successful ventures use quality research intelligence to produce quality products. Furthermore, accurate intelligence allows for better use of resources and reduced business risks. In addition, good marketing research management puts the entrepreneur on a successful path of business trajectory. To sum up the importance of research and development, Michaelson (2001) gave the following encouraging remarks for entrepreneurs:

> *"Good strategy needs good assumptions, and good assumptions are a product of good intelligence. America's most successful corporation has large cadres of internal and external market research services. They treat marketing research as a corporate asset because it helps them market more effectively and efficiently. Gathering knowledge is an ongoing, dynamic feedback process".*

The draft policy on comprehensive producer development support suggested that technical and advisory services should be underlined by generating, collating, and disseminating cost-effective technologies derived from on-farm research (DAFF, 2016). It encourages the reorientation of research and development strategy to be pro-smallholder producers. This policy position might have been influenced by the realization that smallholder farming is still characterized by a lack of information regarding their contribution to manufacturing, retails, and transport in the South African economy (Stats SA,2013, Aliber & Mdoda, 2015). However, the South African government believed that small-scale farmers could significantly reduce food insecurity (Molekwa & Doidge 2010).

3.4 INDUSTRY SECTOR PARTICIPATION

Most developed countries have higher education levels, distinct industry sectors, and participation levels in more intricate communication and information technology (Herrington and Kew, 2016). However, entrepreneurs in innovation-driven economies (e.g., Burkina Faso, Cameroon, and Senegal) are more likely to be cheerful and vigorous in the agri-sector than those in other countries (Herrington and Kew, 2016).

Peroni et al. (2017) reported that 50% of the entrepreneurs inefficient - and factor-driven countries operated in the wholesale/retail sector, contrasting to a-third of entrepreneurs in innovation- impetus countries such as Hong Kong, Australia, Qatar, Israel, Taiwan, Republic of South Korea, Germany, United Arab Emirates, etc. In contrast, entrepreneurs (46%) in innovation-driven countries are in the financial, information, professional, and communications (Peroni et al., 2017). On the other hand, the highest participation levels by entrepreneurs in service and technology sectors were found to be in the innovation-driven countries – which have large consumption and greater information strength among potential leaders or entrepreneurs (Peroni et al., 2017)

3.5 ENTREPRENEURIAL STATUS OF SMALLHOLDER FARMING

It was well established that the South African agricultural sector was categorized into two central farming systems (i.e., commercial and smallholder farming) (Aliber and Hall, 2012; Okunlola et al., 2016; Zantsi and Nkunjana, 2021). Of these two farming systems, smallholder farming is known to be relatively small in contributing to the nation’s gross domestic product (Mmbengwa, 2009). Thus, smallholder farming is seen not to be economically active. Furthermore, the reliance on smallholder farming to traditional primitive farming methods without taking advantage of technological innovation and lack of entrepreneurship leadership has been cited as one of the keys constraining their growth and sustainability (Okunlola et al., 2016).

Apart from the poor usage of technological innovation and entrepreneurial leadership capacity, smallholder farming is practiced mainly by poverty-stricken rural residents' "peasants." Land poverty in this farming system is endemic and attributed to land dispossession, forced removals, and the Bantustan policy (DAFF, 2014 Okunlola et al., 2016). The state of land affairs for these farmers has prompted the new regime to return the land to these farmers through land reform processes (Okunlola et al., 2016).

However, the land reform is slow and politically motivated to the point that the land recipient does not get the land in a productive state, despite the high time lag of delivery of the title deed (Mmbengwa, 2009). The challenges of lack of land and unproductive land imply that smallholder farming had limited land for agricultural production. The factor above further explained the reasons for numerous classifications of these farmers (i.e., subsistence, small scale, smallholder, and smallholder commercial) (Operation Phakisa, 2016).

These classifications were often due to the land size, production scale, number of laborers, and turnover (Mmbengwa, 2009). The implication of this classification meant that smallholder farming has sub-clusters that were distinctly based on their objectives; for instance, subsistence farming in the smallholder categories was more concerned with family household food security, whereas smallholder farming commercial was concerned with both household food security and profit maximization. This classification was consistent with the global classification of smallholder farming as espoused by the Chayanov peasantry theories (Van der Ploeg, 2014). Although, the formation of these types of farming in South Africa was due to political processes (Okunlola et al., 2016).

3.6 CONCEPTUAL FRAMEWORK - DEVELOPMENT OF COMMERCIALIZATION MODEL FOR THE SMALLHOLDER FARMING SECTOR

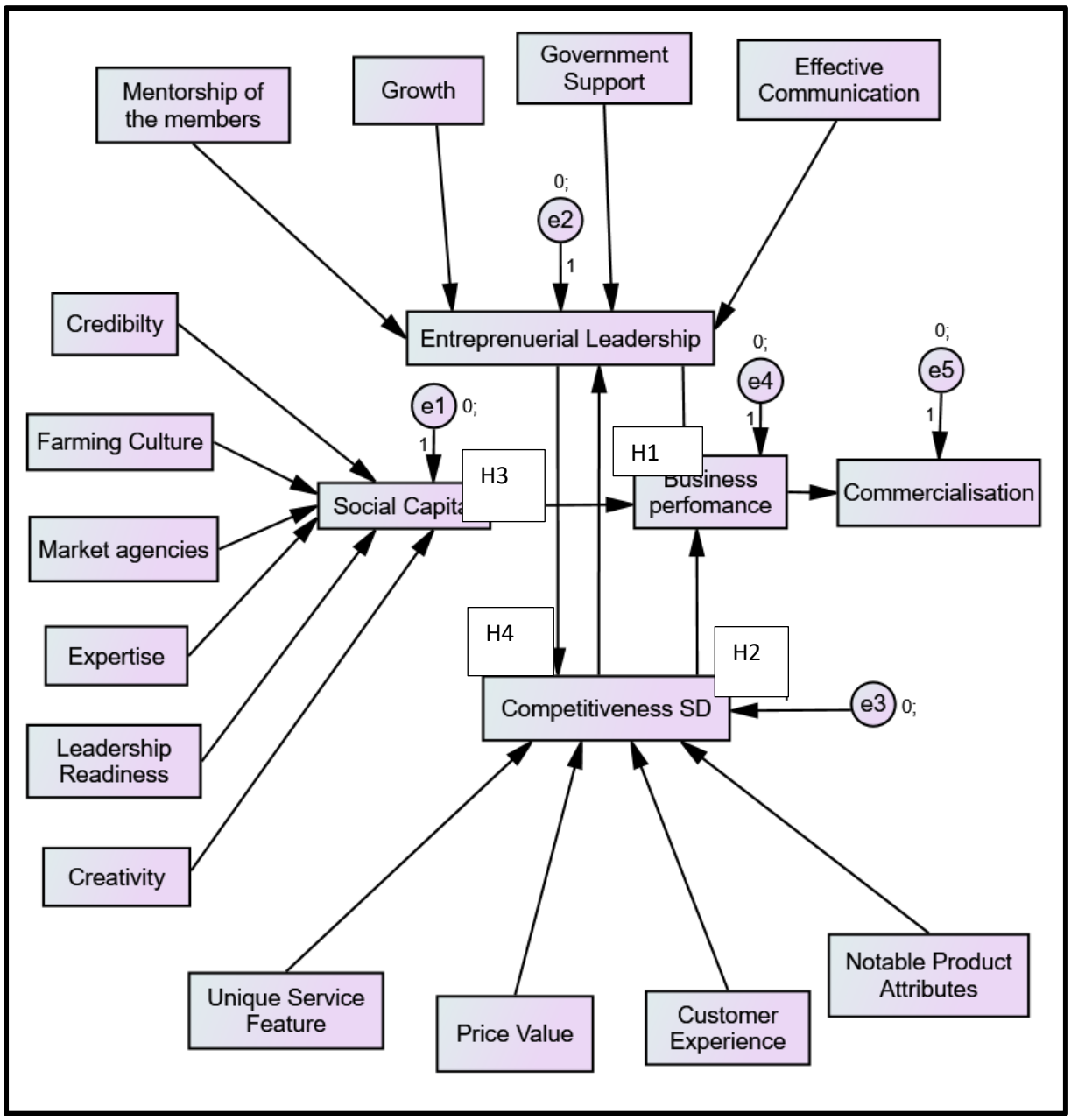


Figure 3.1: Conceptual entrepreneurship framework for the economic commercialization of smallholder farming

3.6.1 Factors affecting entrepreneurial competitiveness of the smallholder farming sector

Entrepreneurial competitiveness is affected by various factors such as unique service features, price/value, customer conveniences, customer experience, and notable product attributes (Longenecker et al., 2003). However, none of these factors has been empirically investigated in the smallholder farming sector of South Africa. Consequently, this section of the study seeks to determine which factors mentioned above affect the entrepreneurial competitiveness of the smallholder farming sector.

3.6.2 The entrepreneurial growth path for the smallholder farming sector

Herrington et al. (2014) outline the framework of entrepreneurial processes affecting national economic growth. In addition, Timmons and Spenelli (2004) suggested an entrepreneurial process that seeks to benefit the corporate team and create opportunities and resources. This contrast does not adversely affect the choice of the model. Because the current study seeks to improve the commercialization of the smallholder farming sector, the model presented by the Global Entrepreneurship Monitor (GEM) report was chosen to guide the findings of this study. Regarding the GEM report, social, cultural, and political (SCP) context form has a probability of causing the change in entrepreneurial framework conditions (EFC). Subsequently, both entrepreneurial framework conditions (EFC) and social cultural-political context (SCP) have the probability of causing a change in both entrepreneurial opportunities (EO) and entrepreneurial capacity (EC).

The report further suggested that social cultural-political context (SCP), entrepreneurial framework conditions, and entrepreneurial opportunities (EO) have the probability of causing a change in business dynamics (BD). Lastly, the report suggested that social cultural-political context (SCP), entrepreneurial framework conditions (EFC), entrepreneurial opportunities (EO), and business dynamics (BD) have the probability of changing the national economic growth (NEG). Smallholder farming has struggled to impact the national economic contribution without success (Mmbengwa, 2009).

Very few empirical investigations have pointed out which factors in the entrepreneurial process constrain the smallholding farming sector from providing the necessary economic contributions. Henceforth, this section of the study seeks to model an entrepreneurial process in the smallholder farming sector to determine which factors in the model affect the national contribution of this farming sector.

3.6.3 The evaluation of the effect of the entrepreneurial leadership factors in the smallholder farming system

Wickham (2004) has reported that entrepreneurship is a latent variable constituted by the following variables:

- Credibility
- Personal vision
- Communication with the stakeholders
- Organizational culture
- Knowledge & expertise
- Desire to lead
- Creativity
- Performance of the venture
- Leadership role

Timmons and Spenelli (2004) have highlighted the outcome of the qualities of entrepreneurial leadership as ranging from the following:

- Consensus building (CB)
- Effective communication (EC)
- Mentorship and motivation of the members of staff. (MM)
- Building trust (BT).
- Corporate development and growth (CDG).

3.7 ENTREPRENEURIAL PERFORMANCE OF THE SMALLHOLDER FARMING SECTOR

Entrepreneurial performance has been a particular concept in the smallholder farming sub-sector of the African agricultural sector. This concept is so because smallholder farming enterprises have been operated across the continent to predominantly achieve livelihood goals at the expense of business rewards (Mmbengwa *et al.*, 2012). According to Sebikari (2014), smallholder production favors achieving livelihood objectives despite knowing the associated benefits accrued because entrepreneurial performance encompasses financial and non-financial rewards. Non-financial benefits relate to livelihood rewards such as food security, cultural rituals, knowledge, capacity, and social status, while entrepreneurial financial benefits are associated with market shares, profitability, and sales growth (Mmbengwa 2009, Sebikari 2014).

The bias favoring livelihood benefits relative to entrepreneurial performance seems widespread across African smallholder production systems. However, according to the EMRC agribusiness forum (2009), the association of entrepreneurship with agribusiness to livelihood should be enormous, and it has been reported that 80% of the African population relies on agriculture for their livelihood. In addition, more than sixty percent of Africa's vigorous laborers earn livelihood in the agri-sector (Bonaglia *et al.*, 2008).

The livelihood orientation of smallholder farming seems to have both cultural and socio-political connotations (Mmbengwa *et al.*, 2012). These appeared to have limited the advancement of smallholder farming entrepreneurship. There are no recorded ways to evaluate entrepreneurship performance. It also painted that no entrepreneurial activities are involved in these sub-sectors in Africa.

There seems to be a reality that suggests that there could be limited entrepreneurial activities performed amongst the rural and peri-urban settlements. The recent experience suggests that poor people prioritize food security over entrepreneurship, and thus, smallholder farming appears to be the best platform to reduce such socioeconomic challenges. Although smallholder agriculture remains essential for poverty reduction and economic development in developing countries, the development has been challenged by a lack of institutional innovations and development funding to conquer production and market failures (Hazell *et al.*, 2010; World Bank, 2008; Wale and Chipfupa 2021).

3.7.1 Smallholder farming performance

The smallholder farming performance (regardless of the production scale) is conceptualized as a performance that fulfils the product demands and the supply of the required products' quality, volumes, and satisfaction of the customers (Jakubowska et al., 2021). Therefore, the crops and livestock that were produced, coupled with the information about the sales volumes, costs of production and income obtained by every agent within the value chain, and the marketing margin analysis, also constitute the smallholder farming contribution to the economy (CAET, 2001; Milagrosa, 2007 Jordaan *et al.*, 2014).

The smallholder farming sector does not seem to record this performance information; therefore, they do not possess such historical data (Mmbengwa 2009). This weakness makes it difficult for the assessment of smallholder farming performance. Furthermore, the lack of performance information in this sector makes the investors associate these farming ventures with high risk and low cash flow since the enterprise's performance is measured based on the commercial farming benchmark.

This approach portrays smallholder farming as a sector that performs below the production scale. Furthermore, the lack of performance statistics implies that any smallholder farming investment could lead to failure. Additionally, this sector and enterprises do not produce annual consumption, sales, and employment data. Consequently, the latter is not reported, making it impossible to quantify the smallholder farming sector's economic benefits in the agricultural value chain. As a result, new interest from donors, governments, and researchers has emerged to support entrepreneurs in the value chain. These role players assist in the improvement of smallholder agricultural institutions. This improvement mainly enhances market participation (Bernard and Spielman, 2009; Fischer and Qaim, 2012).

3.7.2 Smallholder farming firm performance

The thought can lead to or increase the firm performance in various dimensions, for example, sales and employment (Palich *et al.,* 2000; Coad and Guenther, 2014). Regional economic development and innovation theories have recognized the critical role of intangible elements in interpreting the winning economic performance of one firm, the region, or a country (Cooke and Morgan, 1998; De Dominicis *et al.*, 2013). Firm innovation and performance in China have received increasing attention from scholars (Guan *et al.,* 2006; Liu *et al.*, 2014; Choi and Williams, 2014). The same cannot be said of the smallholder farming sector because firms associated with this sector receive very marginal business research attention such that innovations are of lower quality than other sectors. Furthermore, regional economic development does not emphasize the need for technology and innovation to increase firm performance in this sector. This sector seems to be highly associated with resource poverty and underdevelopment, and the same could be said for related firms.

3.8 ENTREPRENEURIAL COMPETITIVENESS AND FINANCIAL SUSTAINABILITY OF THE SMALLHOLDER FARMING SUB-SECTOR

At the global level, small-medium enterprises (SMEs) have positively impacted the countries' economic growth and competitiveness (Surya et al., 2021; Kaur and Kaur, 2021). SMEs have been credited with igniting the countries' economies because of their flexibility, adaptability to market changes, and impact on employment and knowledge sharing (Petkovska, 2015). However, smallholder enterprises are no exception to the norm above. A significant limitation in smallholder competitiveness has been identified from their limited information regarding their households and production systems (Andersson and D'Souza, 2014).

In addition, Abu (2012) seems to think that smallholder farming has common challenges across different countries. This author has reported that the common problems experienced by smallholder farmers, which make them less competitive, relate to the lack of market access, the effect of globalization, diseases, infections such as HIV/AIDS, and poor policies (Banson *et al.*, 2015). These common challenges appeared to be the leading reason smallholder farming has vulnerable households and weak productive systems (Abu, 2012).

Aliber and Hall (2012) highlighted the 2001 strategic planning ethos for South African agriculture, which stated that the South African agricultural sector should be driven by the vision to unite and make the agricultural sector prosperous. This vision seems to have been developed to bridge the gap created by the inherent dualism of the sector (Thornton, 1973; Gwebu and Matthews, 2018). By implication, the duality of the sector has been a barrier not only to the success, competitiveness, and socio-economic impact but also contributed to the fragmentation of the smallholder farming sector.

This impact of dualism has rendered the farm support programs aimed at stimulating rural development, land reform, and competitiveness of smallholder impossible (Abu, 2012). Other programs which meant to resuscitate smallholder competitiveness, such as the comprehensive agricultural support program (CASP), MAFIA, Integrated Food Security and Nutrition Program (IFSNP), etc., did not have the necessary impact on smallholder enterprise competitiveness (Chauke *et al.* 2014). To be explicit, van Averbeke *et al.* (2011) have described the competitiveness of smallholder farming as below the acceptable standards such that their performance since 1994 was regarded as poor. The South African smallholder farming experience contrasts with the experience of the Chinese agricultural sector, where peasant families and not capitalist farming dictate the direction of agriculture development (Hairong and Yiyuan, 2015). Therefore, this study aims to examine the factors that influence the entrepreneurial competitiveness of the smallholder farming sector in contemporary South Africa.

3.9 SOCIAL CAPITAL FOR THE SMALLHOLDER FARMING SECTOR

Social capital refers to the aggregation of the potential or actual resources linked to the ownership of the hardwearing network, which was perceived to be highly institutionalized (Flanigan and Sutherland, 2016). According to these authors, social capital appeared to be a relationship of mutual recognition and acquaintance (on the other hand, it is like a group membership– which offers its members with essential business information that could lead to the accumulation of collectively-owned capital, a 'credential' which authorizes the members to the credit, in the different meaning of the word).

In addition, Morrow (1999) noted that the concept of social capital was elusive and evasive, defying simple definitions. However, social capital has been linked with social networks, sociability, social support, family ties, social control, reciprocity, trust, community engagement, social justice, civic-mindedness, group solidarity, and participation in civil society (John, 2010). Subsequently, Fukuyama (1999) accurately interprets that many social capital definitions focus on its performances rather than on social capital itself. Meanwhile, a small group of social capital definitions originates from distinct strands of the theory and different conceptualizations linked with distinct theorists (John, 2010).

Given this assertion, it could be assumed that the objective of the social capital mechanism is to ensure, amongst others, an effective cooperative governance structure by reducing transaction costs. These costs are reduced by combining the autonomy and interdependence of its members, benefiting from using bargaining power for their essential resources, and reducing intra-competition within the group while increasing cooperation amongst the members (Cechin et al., 2013).

The proportion of success rate may be impacted by their social capital and the group's social dynamics (i.e., norms, customs, and traditions) (Jordaan et al., 2014; Hagedorn, 2014). Smallholder farmers are often drawn from the culture of collective farming, where financial benefits are perceived to be secondary to livelihood (Mmbengwa et al., 2015). The existence of social capital in smallholder farming was disrupted by the expectation from the democratic government, where they perceived democracy as governance that could provide food parcels on a sustainable basis, thereby neglecting the traditional farming institutions and customs.

The introduction of the cooperative concept in smallholder farming institutions (by the same government) has also led to further disruption of rural social capital arrangements (Okunlola et al., 2016). According to these authors, the reliance and dependency on smallholder farming give these farmers government resources and technical support. These factors and others have impaired the creativity and credibility of the smallholder farming sector. In their research about building a sustainable and economically viable smallholder farming enterprise, these authors recommended that a systematic social capital strategy with national research institutions and smallholder farming enterprises would be essential for smallholder farmers to be economically viable.

In addition, contemporary smallholder farming should be modeled as a combination of economic and livelihood-driven rather than just for the latter. Theoretically, there seems to be a broad consensus emerging which suggests that social capital could improve the social and economic participation of the communities to increase their communal power (John, 2010). This author seems to believe that social capital could improve social knowledge, understanding, values, norms, traits, and trust, thereby adding value to the sustainability of smallholder farming enterprises.

Without an organic, well-organized, systematic, and trust, social capital formation of the smallholder farming sector is impossible to achieve. Furthermore, the current government support for these farmers (through various interventions such as comprehensive agricultural support program (CASP), Agricultural black economic empowerment program (Agri-BEE), radical economic transformation (RET) and amongst others land expropriation without compensation) could be difficult to achieve. This study has contributed to identifying crucial factors that could ensure that the smallholder farming sector is transformed into a competitive and formidable institution that could contribute to the national food security and the gross domestic product of the South African nation.

3.10. THE ENTREPRENEURIAL LEADERSHIP FACTORS IN THE SMALLHOLDER FARMING SECTOR

Entrepreneurial leadership is a dynamic process of a business vision that commits followers to the milestones of the business (Hejazi et al., 2012). It is also a way to accept the risk when facing threats. This process involves disclosing and employing novel resources concerning achieving leadership vision (Henry et al., 2015; Hejazi et al., 2012). In addition, leadership related to entrepreneurial leadership is associated with organizational and strategic change (Urban, 2016).

Numerous authors (DeMartino et al., 2006; Singh et al., 2001; Karpouzoglou and Barron, 2014) have implied that entrepreneurial competitiveness is a product of entrepreneurial and managerial behaviors. The latter is ascribed as a behavior predisposed by different factors such as gender, education, age, number of family members and dependents, formal experience in management, and business skills (Eze et al., 2021; Gholami and Al Tahoo, 2021). Patterson (2011) explained entrepreneurial leadership as leadership influenced by social and process gender, accepting the following involvement and individual agency.

The studies by Renko et al. (2015) and Dabic et al. (2021) proposed a comprehensive and overall construct of entrepreneurial leadership. These authors explained the association of entrepreneurial leadership with the direction of how businesses could succeed. Henry et al. (2015) found that founding leaders are the custodian of entrepreneurial leadership than non-founding leaders. This author believes this type of leadership emphasizes "entrepreneurship" instead of "management."

When the competitive context of the twenty-first century requires enterprises to adjust to changes in a dynamic environment, the innovation’s development and implementation are significant (Tyssen et al., 2013). The complex and dynamic environments require the leadership to ensure that organizational change and entrepreneur behavior are consonant to change (Lee, 2011). Finestone and Snyman (2005) and Denton and Vloeberghs (2003) reported that developing countries such as South Africa (SA) needs effective leadership to advance their economies, considering their severe skills shortages and historical division of their societies.

Multitudinous leadership definitions emerge (Yukl 2012), and the majority of such definitions appear to depict this concept as the potential for a leader to motivate, influence and improve others for success in the organization. Moreover, small businesses and entrepreneurial ventures dedicate about 2.5 times more than large enterprises to innovation (Urban, 2016). In the light of this author, wealth creation and significant innovations are generated by small businesses and entrepreneurial ventures across the globe. Consequently, entrepreneurial leaders' role is to yield results via obtaining and managing those resources. In the past twenty-three years, the SA government placed small-holder farming as a crucial and strategic sector whose task was to reduce poverty and inequalities and improve unemployment in poverty-stricken rural communities (Operation Phakhisa, 2016).

In addition, the entrepreneurial functions of smallholder agriculture have failed to convey those national imperatives. Consequently, smallholder framing in South Africa requires organizational and transformational evolution. A theory of organizational evolution suggests that firms transform their strategic and operational structure so that the organization is economically viable and competitive (Wickham, 2014). This author believes companies should study how to structure their organization and facilitate their enterprises for success. This research aimed to investigate the influential factors that influence entrepreneurial leadership in South Africa's smallholder agriculture to ensure that this sector is economically feasible to conduct its national strategic thrush as planned and demonstrated by the national development plan vision 2030.

3.10.1 Smallholder farming reconstruction and renewal

Chayanov's work focused on the idea of the peasant farming and treated this as a primary economic unit. Peasant farming is a farming modus that is self-perpetuating and self-defining. Like capitalism, feudalism, and socialism, it can constantly reproduce itself (Harrison 1975). Smallholder (peasant farming) requests entrepreneurial leadership to duplicate its economic units within a specific economic system in a developing country like South Africa. Therefore, leadership theories should guide, making smallholder farming economically feasible in South Africa.

With a renascent effort to rehabilitate, reinstate and facilitate smallholder farming as a strategic part capable of decreasing poverty, inequality, and unemployment in economically underdeveloped rural areas, the capabilities of leadership are requested to transfer smallholder farming companies into economically feasible entities (Operation Phakhisa, 2016). On the other hand, leadership is an intricate concept in contemporary organizations and institutions (Belias et al., 2015). In the light of these authors, it is an integral sector of a work environment that influences its external and internal function policies, plans, and strategies.

3.10.2 Traditional and contemporary leadership theories

The leadership theories of Argyris, Blake, McGregor, Likert and Blanchard, Mouton, Maslow, and Hersey concerned the individual development within a cohesive and effective organization" (Landis *et al*., 2014 Bass, 1990). In these theories, it is highlighted that the path-goal theory clarifies the route required to be followed to achieve the goal of the enterprise (Hoonsopon and Puriwat 2021). The path theory also provides a mechanism to reduce challenges faced by enterprises (George and Sleeth 2000). In addition, the theory of cognitive resource leadership interpreted that intelligent and competent leaders design better plans and projects than leaders without such skills (Gómez-Leal et al., 2021).

Furthermore, traditional leadership theories were reported to concentrate on individualistic attributes of entrepreneurs, such as great men, behavioral, trait-based, situational, and contingency theories (Fennell 2021). Curtis (1998) and Fourie et al. (2021) highlighted that contemporary leadership theories are influenced by the view that most leadership structures are not the leaders but followers. Of all the leadership genres, the most well-known are transformational, transactional, educative, strategic, teacher, and organizational leadership (Bolden et al., 2003; Bellibaş et al., 2021). A discriminate feature of transformational leadership theories is that the theory explains how influential leaders establish a vision, judgment, or perfect objective (Bryman, 1992, Conger & Kanungo, 1988, Carless *et al., 2000*). While leadership replacement theory (Howell et al. 1986; Kerr and Slocum 1981) illustrated that individual job and organizational factors could neutralize, substitute, enhance, or supplement the utility and usefulness of the leader's behavior.

3.11 DEVELOPMENT OF COMMERCIALIZATION MODEL FOR THE SMALLHOLDER FARMING SECTOR

In the context of development sociology, agricultural commercialization was a perspective emanating in the 1960s. However, production commoditization was the school of the 1970s and 1980s (Vandergeest 1988). Both these concepts were associated with the Third World peasantry. Agriculture in developing countries is primarily characterized by persistence and the predominance of smallholders (Henderson, 2014). Moreover, Nagayets (2005) explained that smallholders are those producers who cultivate less than two hectares of land. Meanwhile, he estimated that such agents operate 85% of the 525 million farms worldwide. According to Henderson (2014), most small-scale producers are found in Africa (80%) and Asia (87%). In Africa, smallholder farming has struggled to commercialize its production due to various factors.

From 1948 to 1991, apartheid (a cruel regime that institutionalized separate development between the races) fostered peasantry farming within black communities by de-commercializing the smallholder farming system (Makombe 2018). Mbeki (1964) revealed that the apartheid rule was designed such that the commercialization potential of the smallholder farming system in South Africa was critically impaired. This rule has created an environment that was not conducive to commercial farming of the smallholder farming by confining these farmers to be resource-poor in all farming requisites.

Hall and Cousins (2018) further reported that agricultural change in South Africa over the past twenty years had consolidated the supremacy of corporate agribusiness and large-scale commercial farming within agro-food systems. The consolidation of commercial farming happened in the exclusion of smallholder farming and the perpetual marginalization of these farmers regarding market access and land resources.

The conditions revealed by Tomlinson Commission (Mbeki 1964) show that black farmers still face extreme poverty and over-crowding in the land reserves (Cascovadia, 2017). Commercial counterparts are ignorant of the prevailing land inequalities where a minority (0.3% of the South African population) of white South Africans still own more than 70% of productive farmland (von Loeper *et al*., 2018; Moller, 2015).

According to this author, commercial agriculture and industry fully know that commercial agriculture has a 3.2 times better capacity to reduce poverty than non-agricultural enterprise. Currently, this type of farming has contributed 1% to the gross domestic product (GDP) with a 6% capacity to increase the income of the poorest where it employs 668 582 semi- and skilled workers compared to 607 788 in manufacturing and 383 542 in mining (Statistic South Africa, 2016). However, the apartheid system deliberately marginalized the commercialization of smallholder farming by limiting the capital resources towards developing many people who should be involved in a small-scale farming system (Mbeki, 1964, Van Rooyen and Botha, 1998).

According to Mbeki (1964), the Tomlinson Commission's report highlighted that black families in South Africa required fewer land resources 45 hectares to have performed commercial farming while their white counterparts were said to require more land (it was estimated that white farmers required a minimum of 214 hectares to produce grain successfully). The Tomlinson Commission argued that the land allocated for smallholder black families in South Africa is grossly inadequate for commercialization and requires radical change (Mbeki, 1964).

However, most of the beneficiaries of the apartheid rule regard the radical economic transformation (which seeks to redistribute land ownership) as political rhetoric that could hinder macro-economic growth rather than an attempt to induce the commercialization of smallholder black farming (Jankielsohn and Duvenhage 2018).

3.12 CHALLENGES FACING SMALLHOLDER ENTREPRENEURIAL PERFORMANCE

Various researchers anonymously viewed the challenges and constraints in the agricultural system as the impediments to growth and entrepreneurship that inform the sector's viability, sustainability, and productivity (Banson and Danso, 2013; Gerssen-Gondelach *et al.*, 2015; Banson *et al.*, 2016). Poor agri-policies and lack of institutionalization of agricultural enterprises have been a significant challenge to agricultural development and sustainability and impede the improvements of livelihood, entrepreneurship, and sustainable development (Reardon and Vosti, 1992; Godfray *et al.*, 2010).

Verhofstadt and Maertens (2014) reported that numerous African people are living in poverty, and this has led them to exploit natural resources in an unsustainable way which can further degrade the natural ecosystems. The government has also spent much capital on research projects to associate smallholder farmers with commercial agri-food chains and revitalize smallholder irrigation systems (Denison and Manona, 2007). Jordaan *et al.* (2014) conceptualized the framework for smallholder farmers to harness and resolve poverty through smallholding entrepreneurship.

Despite the commitment from the South African government through huge development investments made to assist smallholder farmers, such as those involved in land redistribution, restitution, and development through irrigation schemes, the performance of the smallholder farmers in commercial agri-food chains leaves much to be desired (Mmbengwa *et al.*, 2012). This experience implies that the poor performance of these farmers means less reduction of poverty, unemployment, and inequalities.

Van Averbeke *et al.* (2011) stated that most smallholder irrigation projects in rural areas performed below the potential. However, the poor performance of smallholder farmers was an important cause for concern (Mango et al., 2017; Kansanga et al., 2021; Lun et al., 2021). With the emergence of democracy in South Africa in 1994, the SA government has dedicated itself to associating smallholder farmers with commercial agricultural value chains to reduce rural poverty and unemployment (Letsoalo and Van Averbeke, 2005). However, the lack of entrepreneurial capacity within and amongst smallholder farming enterprises has reported cases of entrepreneurial failures (Mmbengwa *et al.*, 2011).

3.13 CONCLUSION OF THE LITERATURE REVIEW

The review of the secondary information regarding the state of smallholder farming competitiveness, commercialization, leadership, entrepreneurship, and entrepreneurship has shown that the economic advancement of smallholder farming in South Africa is under tremendous challenges. However, the invention through policies, acts, and strategic frameworks coupled with substantial financial investments have yielded marginal successes which do not compensate the farmers with commercialization.

The literature has also shown a massive gap regarding entrepreneurial performance, lack of growth, entrepreneurship framework, and leadership. Based on the observations mentioned above, the investigation of the factors that may influence and impact entrepreneurial performance, competitiveness, growth, and leadership require critical attention to ensure that these farmers are not only transformed into commercial enterprises but are also changed into sustainable and viable farming enterprises which can provide economic benefits in our society at large. Unfortunately, political leadership has since failed to deliver the desired entrepreneurial outcome. Henceforth, entrepreneurship could be essential to correct this complex challenge in the smallholder farming sub-sector.

CHAPTER FOUR
RESEARCH METHODOLOGY

4.1 INTRODUCTION

The preceding chapter has dealt with the detailed literature review applied to this study. The current chapter has provided the research methodology framework to advance the study objectives. The content of the research methodology ranged from the details of the location of the study, participants' description, explanation of the aim and objectives, research assumptions, population, sample, data management, reliability and validity, ethical considerations, research instrument, and conclusion. The primary purpose of the chapter was to provide general methodological techniques used in this study.

4.2 THE STUDY LOCATION

This study was conducted in six provinces viz Limpopo, Mpumalanga, Free State, Eastern Cape, Gauteng, and Western Cape provinces. The availability of smallholder farming entrepreneurs determined the location of the study. Their preparedness to participate in the study was an added criterion. In addition, the availability of institutions, experts, production, and formal and informal markets where smallholder farmers were trading or having a membership of commodity associations and agricultural unions have also led to the choice of the location of this study.

4.3 PARTICIPANTS CRITERION

Participation in this project was established in line with the aim and research objectives of the project. This criterion provided reasons why some stakeholders were chosen to participate in this project while others were excluded. The number of participants from each stakeholder was pre-determined and carefully selected (Plate 4.1, 4.2,4.3, and 4.5). The rationale also informed the choice of the participants of the project. Demographic factors such as age, gender, and educational profiles were used to characterize sectoral capacity. The characteristics of the participants who refused to participate were not reflected in the thesis.

Plate 4.1: Smallholder vegetable entrepreneurs at Thohoyandou in Vhembe District Municipality of Limpopo province

Plate 4.2: Smallholder entrepreneurs in Krugersdorp at West rand district Municipality of Gauteng Province

Plate 4.3: Smallholder livestock in Thaba Nchu at Mangaung Metropolitan Municipality of Free State Province

Plate 4.4: Smallholder sweet potato entrepreneurs at Giyani in Vhembe District Municipality of Limpopo province

4.4 THE AIM AND OBJECTIVES OF THE STUDY

4.4.1 Aim of the study

The study aimed to develop a robust dynamic entrepreneurship framework for smallholder farming commercialization, growth, and sustainability in the South African environment.

4.4.2 The specific objectives

The following specific objectives were set:

a) To identify factors that best explain (or define) entrepreneurial performance in smallholder farming enterprises.
b) To determine critical factors (or drivers) significantly impacting the entrepreneurial competitiveness of smallholder farming.
c) To determine factors that influence social capital in the smallholder farming sector of South Africa.
d) To evaluate the influence of entrepreneurial leadership factors in the smallholder farming sector.
e) To develop the commercialization model for the smallholder farming sector.

4.4.3 Research questions

The research questions that underline this study are mentioned below:

a) Which factors determine the entrepreneurial performance of farming businesses?
b) Which factors affect the entrepreneurial competitiveness of farming enterprises?
c) Which factors influence the social capital of smallholder farming enterprises?
d) What effects do entrepreneurial leadership factors have on farming enterprises?
e) How do we commercialize smallholder farming enterprises in South Africa?

4.5 RESEARCH ASSUMPTION, PHILOSOPHY & DESIGN

This study followed three tenets of the research process (i.e., assumptions, philosophies, and designs). According to Saunders et al. (2016), these tenets were assumed to be linked. Furthermore, these tenets imply that all these constructs influence each other. Hence, carefully choosing these tenets could lead to a proper investigation design.

4.5.1 Research assumptions and philosophy

The research process followed the epistemological (acceptable knowledge) research beliefs and assumptions (Saunders et al., 2016; Al-Ababneh, 2020; Kelly, 2021). The research philosophies adopted in the study were interpretivism and pragmatism. These research philosophies were desired because of the following reasons:

i. Interpretivism research philosophy focuses on the narratives, new understanding, theories, world views, and concepts to enhance the research agenda under consideration (Saunders et al., 2016; Rabetino et al., 2021). In this study, theories and world view intricately linked to the current research were identified and used to identify the gaps outlined in the current studies.
ii. Pragmatism utilizes the practical meaning of specific knowledge in specific contexts. It also sought to refine existing theories and knowledge to fit a particular scene so that such theories could lead to successful implementation (Makin 2021). Above all, it is concerned with problem-solving and informing future practice as its main contribution (Saunders et al., 2016).

4.5.2 Research Design

A research design is a data collection, measurement, and analysis blueprint. It is the arrangement and layout for collecting and analyzing the information in a way that aims to produce an appropriate research outcome (Kothari 2004). This author associated research design with a conceptual map where research is conducted. The study used a mixed research design. Of the mixed method designs, a sequential multi-phase method was preferred—these methods were provided for the use of qualitative approaches first, followed by quantitative and then qualitative. The objective of this design was to enable the data to provide descriptive, explanatory (or a combination of both), and exploratory research outcomes (Saunders *et al*., 2016). According to Eiselen et al. (2005), descriptive research describes a phenomenon, while exploratory study focuses on a study where little is known about the phenomenon. Although many aspects of smallholder farming have been researched in South Africa, very little research has focused on smallholder farming entrepreneurship (Mmbengwa, 2009).

Their corporate successes and failures have been reported in some studies without linking such to the effect on entrepreneurship performance and leadership (Mmbengwa *et al.,* 2012). The lack of empirical evidence regarding the corporate entrepreneurial performance of this farming sector has prompted the adoption of descriptive exploratory and explanatory designs. The experimental design has reflected on the status of entrepreneurial performance and competitiveness of this sector. On the other hand, the descriptive analysis provided the estimates and direction of the effect of entrepreneurial processes, leadership, performance, and competitiveness in the model equation (Saunders et al., 2016).

4.6 POPULATION AND SAMPLE

4.6.1 Population

The research has drawn its sample from the participants' details from the NAMC database, and the population size was estimated from the same database (see Table 4.1). The farmers' leaders were engaged in getting their consent for the respondent's participation in the study. The following steps were used to recruit the participants from the population:

a. NAMC representatives and enumerators contacted the farmers' leaders in the chosen provinces to seek the farmers' consent to participate in the study.
b. Schedules were set for the data collection in agreement with all stakeholders.
c. Catering and refreshments were arranged for the participants and were paid for by the research's sponsor.
d. The scope of the study was explained to the participants during the research focus group sessions.
e. The discussions regarding granting permission to researchers by stakeholders, particularly farmers, were further entertained.
f. The resultant granting of permission to the researchers led to the stakeholders' signing of the consent form.
g. Farmers with no structural leadership have consented to personal acceptance of participation in the study.

Table 4.1: Estimated population of the smallholder farmers

Province	Estimated Population size	Sample Size (n = 10%)
Free State	1470	147
Limpopo	2050	205
Western Cape	2340	234
Eastern Cape	2800	280
Mpumalanga	1320	132
Gauteng	1580	158
Total	**11560**	**1156**

Notes: the age group of the participants was equal to or greater than 18 years old.

4.6.2 Sampling and sampling method

4.6.2.1 Sampling and design

Diamantopoulos and Schlegelmilch (2005) and Parmelli et al. (2021) defined sampling as a specification of the target population in terms of the elements. On the other hand, sampling design was conceptualized as a theoretical basis and practical means by which inferences were drawn from the characteristic of some populations generalized from the sampling units (Sreevidya and Sunitha, 2011). In this study, the design choice relied on various factors such as the age of entrepreneurs, activeness in farming, size of the population of entrepreneurs in the province, access to more than 10 hectares of land, and full-time farming within the smallholder farming units. This study adopted the non-probability sampling procedure as the sampling design. This sampling design technique was chosen based on the following features (Saunders et al., 2016):

a) Statistical inferences which could be made from the sample,
b) The sample was proportionally representative of the population,
c) There was easy access to the respondents,
d) There was a clear focus for selecting the sample.

Consequently, a cluster-randomized non-probability sampling technique was preferred during the sampling processes in this study. Key themes, in-depth focus, and the importance of the case have enabled the choice of randomized cluster sampling. In addition, the cluster-randomized sampling technique was also preferred because it offered various platforms to engage different stakeholders in the quest for the research's relevant data. This confirmed an assertion that a cluster-randomized sampling technique is sampling based on the strategic choices linked to the research objectives of the researcher (Palys 2008).

In addition, the heterogeneous, homogenous, and critical case cluster randomized sampling was also opted for in this study. Non-probability was used in this research because the smallholder farming sector is not well organized, and therefore, their databases are unreliable, with no universal national database. Convenience (selected respondents available to participate was used) and judgment cluster randomized sampling technique were options whenever cluster-randomized was not feasible. In this study, an appropriate sampling technique was selected from Table 4.2. In types of clusters, randomized sampling, maximum variation and stakeholder sampling were prioritized.

Table 4.2: Types of cluster randomized sampling used in the study.

Items	Name of the cluster-randomized sampling	Purpose of the study
1.	Stakeholder sampling	To evaluate the programs, policies, and research by major stakeholders.
2.	Extreme or deviant case sampling	To evaluate extreme cases of interest that represent the purest phenomenon aligned with the research objective.
3.	Typical case sampling	To evaluate specific skills and cases.
4.	Paradigmatic case sampling	To evaluate the specific successful or failed cases and models.
5.	Maximum variation sampling	To evaluate experts' opinions along with the objectives of the research.
3.	Criterion sampling	To evaluate the factors criterions

Source: Eiselen et al., 2005.

4.6.2.2 Sampling size

Six provinces were chosen for this research, and the sample size (n = 1156) was based on statistical and practical considerations. The Roast software was also employed to compute the sample size. In this software, the estimated population of the respondents was 5 000 000.

a) **Variability:** In this study, a critical statistical consideration in sample size determination was the variability degree in the smallholder farming population. The more heterogeneous the population, the larger the sample size needed to catch the diversity in the provinces. The margin of error used was 3%.
b) **Precision:** The study considered the desired degree of statistical precision associated with smallholder farmer population estimates. The greater the precision required, the larger the sample size needed in this study. The response distribution was 50%.

c) **Confidence:** This study required a degree of statistical confidence associated with any estimates made. The more confidence is needed, the greater the sample size required for this study. Therefore, the 95% confidence level was used.

d) **Cross-classification**: The analysis involved the analysis of the sub-samples of the smallholder farmers in the selected provinces.

e) **Formula:** The following formula was used:

$$X = Z\left(\frac{c}{100}\right)^2 \quad r(100 - r)$$

$$n = \frac{N\,x}{((N-1)E^2 + x)}$$

$$E = \text{sqrt}\left[\frac{(N-n)x}{n(N-1)}\right]$$

Where: N = population size, r = fraction of the responses, Z(c/100) = critical value for the confidence level c, n = sample size, E = error.

4.7 DATA MANAGEMENT, ANALYSES, AND DESIGN QUALITY

4.7.1 Data management

4.7.1.1 Quantitative Data collection:

The following steps were considered when collecting data:

a. First, the quantitative data collection was done by designated and well-trained enumerators under the researcher's supervision.
b. The collection of quantitative data was carried out using a survey questionnaire (see Annexure 1).

4.7.1.2 Editing of the data:

The following procedures were considered when editing the data:

a) Field editing (i.e. editing done during interviewing)

- The editing of the data commenced from the field. This involved the collection and verification of the completed questionnaires from the participants.
- Editing involved validating the participants' responses to all questionnaire questions.

b) Central editing (in-house or in-office editing)

- This type of editing was used to classify the questionnaires. The researcher captured and edited the data in his office. The purpose of this editing was to scrutinize the questionnaires thoroughly.
- The research team used the classified questionnaires to determine the missing responses and inconsistency in the responses to the questions in order to ascertain the quality of the data collected.

4.7.1.3 Coding of the data:

The coding of data was done based on the following:

a. Numerical codes were given to both nominal and multinomial responses in the questionnaire.
b. The codes were used to reflect the respondents' responses in the excel data spreadsheet.

4.7.1.4 Data capturing and cleaning:

The procedures outlined below were used to capture the quantitative data and further cleanse it:

a. First, the coded responses were captured in the excel spreadsheet.
b. Next, the captured data was verified through data cleansing validation procedures (where wild codes were removed).
c. The data was then exported to the relevant software (i.e., SPSS or STATA) to analyze.

d. Finally, the exported data was saved using a particular file name.

4.7.2 Data analyses

The collection of both qualitative and quantitative data sets was done. The qualitative data were collected from published materials and focus group sessions, while the latter was collected from the survey of the identified stakeholder respondents using the close-ended questionnaire. The quantitative type of data set was collected using survey interviews with the aid of a well-designed questionnaire (Annexure 1). Specific outcomes were achieved from these data sets (see Table 4.3). The study used STATA and SPSS for the appropriate analysis. The following analyses were performed to provide the outcome of the analyses.

Table 4.3: Proposed data analyses techniques and the outcome

Type of Data	Types of analyses	Analytical techniques	Proposed outcomes
Secondary data	Desktop analysis	Literature review	Global and national situational analyses. Theoretical framework. Identification of factors. The comparative analysis of the policies, models, and strategies were done at the national and global levels.
Primary data	Descriptive analysis	Descriptive analytical techniques (Frequency tables, cluster analysis, factor analysis)	Profiles of respondents and businesses
	Inferential analyses	Parametric analytical techniques (Multiple Linear Regression models or poison and quantile regression models)	To test the hypothesis.

4.7.2.1 Descriptive analysis

Descriptive statistics describe the characteristics of a population or a sample (Tustin, Ligthelm, Martins & van Wyk (2010). According to these authors, this analysis is constructed to answer who, what, when, where, and how questions. The study has presented the following in its descriptive analysis:

a. Counts and percentages were calculated for categorical variables.
b. The mean and standard deviation were calculated for numerical variables.

4.7.2.2 Correlation analysis

The research used correlation analysis to ascertain whether there was a positive or negative relationship between the variables of interest. First, the correlation coefficients were estimated to determine the relationship's strength and direction. Next, Pearson product-moment correlation coefficient (Pearson r) was estimated to affirm the relationship direction of the study constructs. Finally, this correlation was used after the following assumptions were met (Eiselen, Uys, and Potgieter, 2005):

a. The two variables had a linear relationship.
b. Both variables were distributed normally.
c. The variances of the variables were equal.

4.7.2.3 Item analysis

The study used item analysis to test how well the responses of each item in factor or scale of items corresponded to that of the other items and the scale (Eisselen et al., 2005). First, a reliability coefficient (Cronbach's alpha (α) or the Kuder-Richardson 20 was calculated. When Cronbach's alpha value was close to 1 (e.g., $\alpha \geq 0.7$), it was concluded that there was a better internal consistency within the measured items.

4.7.2.4 Factor analysis

A factor analysis (Principal Axis Factoring) was used to identify which factors contributed significantly to the construct of entrepreneurial leadership from a smallholder farming perspective. This analysis was so because factor analysis was a multivariate statistical technique to determine the underlying dimensions in a set of opinion-related questions (Eiselen, Uys, and Potgieter, 2005). Upon identifying such factors, a composite factor termed entrepreneurial leadership was developed. After developing the factor, a multiple linear regression was conducted to test the effect of entrepreneurial leadership qualities on entrepreneurial leadership. This exercise provided insight into which leadership quality was needed in the smallholder farming sector for commercialization or entrepreneurship.

4.7.2.5 Inferential and path analysis

The research used multiple linear regression and structural equation modeling (SEM) to analyze the impact of the factors and construct a path analysis. The following

a. Exploratory factor analysis (EFA) was used to determine the composite factor from the indicators.
b. Normality, heteroskedastic, and multicollinearity tests were performed before the analysis of the multi-linear regression model.
c. Logarithmic transformation was applied whenever the conditions for multi-linear regression were not fulfilled.
d. Structural equation modeling (SEM) was used to develop commercialization models.

4.8 CONTEXTUALIZATION AND DEVELOPMENT OF HYPOTHESIS

4.8.1 Entrepreneurial performance

The theoretical underpinning of entrepreneurial performance of smallholder farming in the current and past literature is concealed, and the reference to the theoretical framework may require a significant degree of dynamic synthesis from another discipline. Therefore, analyzing the theoretical foundation of performance is difficult without dissecting how underperformance could impact enterprises. The underperformance of smallholder agricultural enterprises is associated with continued under- and irrelevant investment in these enterprises by most governments and international funding agencies (De Janvry 2010; Cross and Neumark 2021). De Janvry (2010) reported that agricultural growth could be the engine of industrialization, structural transformation of the economy, and a stimulus of aggregate domestic economic growth in a classical development paradigm, firmly anchored in history and theory.

4.8.1.1 Industry knowledge

Schumpeterian innovation theory espoused new combinations of technology and knowledge, which brought about new opportunities and more vital market positions to grow (Schumpeter 1934; Choi and Williams 2014). Acs *et al.* (2013) have pointed out the importance of industrial and portrayed knowledge as a rich source of entrepreneurial opportunities and performance. Given that South African smallholder farmers have poor knowledge of their industry and poor entrepreneurial performance, the study was interested in investigating the significance of industry knowledge as a factor that could influence and be associated with entrepreneurial performance. Hence, the study has formulated the following hypothesis:

Hypothesis 1: Industrial knowledge could positively and significantly influence entrepreneurial performance in a smallholder farming sub-sector of South Africa.

4.8.1.2 Management skills

The necessary management skills and technical know-how transition emerging farmers from subsistence smallholder or communal farming to commercial farming (Antwi and Oladele, 2013). According to Karpouzoglou and Barron (2014), management and entrepreneurial behaviors are among the factors that are known to influence productivity and efficiency. Furthermore, Patel (2011) described the situation in South Africa in the following manner:

> "South Africa has a relatively weak small, micro, and macro enterprises sector in all industries and agriculture. Before 1994, the state was supposed to empower the marginalized black entrepreneurs by entrenching them in the market and financial institutions, especially the smallholder producers (who often lack production, financial, and management skills). These producers often face difficulties competing with well-established firms in a concentrated market."

Given Patel's assertion of the weak small, medium, and micro-enterprises in South African agriculture, a managerial skills base is essential for the smallholder system to be competent and competitive. Therefore, this study has investigated the influence of managerial skills informed by the following hypothesis:

Hypothesis 2: Managerial skills positively and significantly influence the performance of the smallholder farming system in the South African agriculture.

4.8.1.3 Human resource skills

Educational opportunities lag behind those in affluent cities in the rural areas of South Africa (RDP, 1993). RDP policy document argued for human resource development as a critical component in building the rural economy. Building a rural economy should include opening and re-organization of agricultural schools to meet the needs of the majority. The Act No. 46 of 2013 outlined broad-based black economic empowerment (BBBEE), where human resource and skills development were some of the critical skills needed in the economic empowerment of black businesses.

The latter include the smallholder farming businesses, predominantly in poverty-stricken rural areas of South Africa, where food security and income generation are perceived as critical challenges. Smallholder farming plays a significant role in alleviating poverty, unemployment, and income inequalities in those areas. The study looked at whether human resource relationship skills are critical in smallholder farming entrepreneurial performance based on the following hypothesis:

Hypothesis 3: Human resource skills are positive and significant in influencing the entrepreneurial performance of the smallholder farming sector of South Africa.

4.8.1.4 Personal motivation

Various researchers reported that intrinsic (personal) motivation among entrepreneurs seems to be the source of entrepreneurial growth, performance, and economic prosperity (Acs *et al.*, 2013; Ghio *et al.*, 2015). Similarly, Shamir *et al.* (1993) reflected that a charismatic and visionary leader with transformational approaches could motivate followers to concentrate their efforts on the higher-level goal. Moreover, this leader can quickly identify with social groups and connect work values to followers' values, increasing followers' self-efficacy.

A literature review about organizational citizenship behaviors (OCBs) showed that transformational and visionary leadership has a positive and significant relationship with followers, whereas mingled results were obtained for transactional leadership

(Podsakoff *et al.*, 2000; Graham *et al.*, 2015). Transformational leaders motivate pro-organizational behavior and may unintentionally encourage pro-organizational behavior, which is immoral (Effelsberg *et al.*, 2013; Graham *et al.*, 2015). The study hypothesizes a relationship between the entrepreneurial performances of smallholder farmers with personal motivation. Therefore, the following hypothesis was formulated:

Hypothesis 4: Personal motivation is positive and significant in entrepreneurial performance in the smallholder farming sector of South Africa.

4.8.1.5 Factors impacting entrepreneurial performance in the smallholder farming sector

Wickham (2004) reported that industry knowledge, general management skills, human relationship, and personal motivations influence entrepreneurial performance. However, the influence of these explanatory variables on entrepreneurial performance was not investigated in the smallholder farming sector of South Africa. Therefore, this hypothesis was formulated to identify the parameters of entrepreneurial performance in the smallholder farming sector:

Hypothesis 5: On average, the coefficient of the factors influencing the smallholder farmer's entrepreneurial performance in South Africa has the same impact in all selected provinces.

4.8.2 Entrepreneurial competitiveness

The contextualization for the entrepreneurial competitiveness of smallholder farming is relatively obscure since there is no clear and specific theory for such. However, this study has identified two theories (social movement and agricultural development theories) that may assist in developing context on smallholder competitiveness (Thornton, 1973 Hassink *et al*., 2014). Marketing and management science has taught the sector that superior customer value is instrumental in achieving competitive advantage (Kyriakopoulos *et al.*, 2004). In addition, market orientation is a function of competitors' environment, including acquiring information about competitors in the

target market and transmitting it throughout the business. Furthermore, consumer orientation involves acquiring information about the consumer and disseminating it. Kyriakopoulos *et al.* (2004) demonstrated superior value for consumers due to empirical research and robust evidence about consumer and market features. This strategy has been termed competitive positioning (Homburg and Pflesser, 2000).

4.8.2.1 Unique service feature

Unique services have been characterized by divergence, successful positioning, increased competitiveness, and low complexity (Shostack, 1987). Various authors (Czepial, 1990; Keh and Pang, 2010; Brady et al., 2012) characterized these services as inseparability, credible properties, and high risk. All these properties increase the likelihood of customer-employee interactions. These services could play an outstanding role in the process of purchase. Shostack (1987) defined service as infinitely divergent and unlike other providers' offerings. Hill (1977) holds a divergent view because it is erroneous to classify services as goods.

In contrast, his characterization of service is associated with production and consumption. Thus, this assertion gives the impression that service should be defined as a change in the condition of goods belonging to some economic unit. The existence of unique service features in any enterprise tends to have long-term competitiveness, survival, and expansion (Coad and Guenther, 2013). Smallholder farming in South Africa has products deficient in unique service offerings (Mmbengwa, 2009), and thus, their competitiveness appears to be marginal. Hence, this study seeks to investigate the unique service features using the following hypothesis:

Hypothesis 1: Unique smallholder service features positively and significantly correlate with South Africa's entrepreneurial competitiveness.

4.8.2.2 Price value of products

Estimating product value is critical in determining price formation (Kirillov 1974; Härtel and Korpås 2021). Besides, price formation is also influenced by the production processes, which inherently influence the product's value. The interplay of demand and supply decides the price value of the products (Dimand and Ben-El-Mechaiekh, 2012). This value is influenced by the marginal utility of the quantities of a commodity (Dawson 2021). Dimand and Ben-El-Mechaiekh (2012) reported that the marginal utility of the products is weakly divided into the natural and monetary sectors of the economy. Therefore, the commodity supply and demand equations could independently decide the relative prices of goods, ultimately determining the absolute price level (Dimand 2003). Dimand and Ben-El-Mechaiekh (2012) further demonstrated that Patinkin interpreted that changes in the money quantity should impact the absolute price level. This is only affected by changing the accurate money balances owned by individuals and furthering their requirements for assets and goods.

The price level is balanced using changes in the demand and supply of assets and commodities (Dimand and Ben-El-Mechaiekh, 2012). Centralized planning should include improved price formation with a precise cost accounting mechanism (Kirillov, 1974). In this way, practical price value could be determined for the sustainability of enterprises. South African smallholder farming has been known for weak farm record keeping, with primitive accounting systems that lag in technological advancement. In the environment of smallholder farming in South Africa, price formation, efficiency in production, and value of the products are complex. Henceforth, the value and the contribution of this farming to the GDP of the country are unclear, resulting in this study formulating the following hypothesis:

Hypothesis 2: The price value of products positively and significantly influences factors in the business competitiveness of the smallholder farming system in South Africa.

4.8.2.3 Customer convenience

Customer convenience could be described as the accessibility of consumers' market location and products without difficulties (Reimers, 2014). The effect of customer convenience has been observed in various countries such as North America, Europe, Asia, and Australia (Hamermesh and Lee, 2007). For the business to be sustainable, consumer convenience should be clearly defined, and businesses should strive to ensure that consumers quickly access their products. However, it has been noticed that consumer convenience has been poorly defined in many businesses (Seiders et al., 2000). According to these authors, convenience remains vague among sellers. Although, industry studies reported several insights into how businesses should define consumers' convenience (Berck et al., 2021). Seiders et al. (2000) think that retail convenience implies speedy shopping and ease of transaction. Cunningham and De Meyer-Heydenrych (2021) highlighted that convenience of the market provides four main ways of the whole shopping experience viz:

a) Easy to reach (entrance convenience).
b) The enabler of customers does speed shopping (search convenience).
c) It is easy for customers to get the desired products (seizing convenience).
d) The expeditious purchase of goods and services makes the returns profitable (transaction convenience).

Poor consumer convenience often leads to marketplace dissatisfaction, culminating in low repurchases and brand disloyalty (Fernandes and Santos, 2007). These consumer behavioral patterns could have profound business implications and be complex to comprehend in the business environment (Thompson, 1967). Srivastava and Rai (2013) found that service quality could positively and significantly influence consumer satisfaction and convenience. Given the above, smallholder farming's quest for commercial trading and entrepreneurial competitiveness must be developed about consumer satisfaction and convenience in their marketplace. Thus, this study has formulated the following hypothesis:

Hypothesis 3: Customer convenience is a positive and significant factor in the entrepreneurial competitiveness of smallholder farming in South Africa.

4.8.2.3 Customer experience

In the formal commercial business setup, customer experience is essential for the inversion and innovation of new products to satisfy their needs and aspirations. This type of action often creates the demand and supply of such products. According to Gilovich et al. (2015), customer experience could be money spent from acquiring a life experience, not tangible material. Schmitt et al. (2015) revealed that happiness, entertainment, and pleasure derived from the products are the outcomes of the customer experiences that a businessperson should strive for to satisfy his or her customers.

Schmitt et al. (2015) reported that consumers should not just purchase products (products and services); the brands attract them. Therefore, brand influence can improve or decrease business transactions. The relation mediates the effect of the brand on the transaction between the experientialism and materialism dimensions of product results, for instance, consumer happiness (Brondino-Pompeo 2021). Other authors, such as Ryan & Deci (2001), viewed well-being and happiness as a particularly likely outcome of consumption where distinct characteristics and processes are considered. This phenomenon is regarded as a hedonic path (where customers put happiness as delight, for example, having a luscious Haagen-Dazs ice cream); and a eudaimonia path (where happiness arises from fulfilling life milestones).

However, Wang et al. (2016) have revealed that consumers' responses to product information are dialectical and could turn to socio-cultural factors as a source of attraction or happiness. These reflections point out some potential entrepreneurial competitive advantages that may arise in smallholder farming enterprises in South Africa. Fischer (2021) and Ngcwangu (2021) reported that South African consumers are dominated by the black majority, where smallholder farming forms an integral part of the black cultural heritage, yet this farming struggles to be commercially competitive. Hence, the study has formulated the following hypothesis:

Hypothesis 3: The customer experience positively influences the entrepreneurial competitiveness of smallholder farming in South Africa.

4.8.2.4 Notably product qualities

Product quality is essential for enterprises' growth (Pawar et al., 2021). Consequently, the association between product quality and market structure is an essential characteristic of the enterprise (Dana and Fong, 2011). Schumpeter's (1942) theory on the industrial organization has also exposed some significant relationships between innovation, market power, product quality, and market structure. Berry and Waldfogel (2010) have also presented evidence consistent with that revealed by Shaked (1987), which mainly confirmed the view that the distribution of product quality could bore different market sizes depending on the production process.

Berry and Waldfogel (2010) further suggested that restaurants grow larger where quality is high. According to these authors, for some non-food products such as newspapers, creating quality is largely fixed concerning output. Although smallholder farming in South Africa operates in the agro-food industry, they struggle to produce quality food parcels for the South African retail markets. Thus, they appear to have limited accreditation to supply the big supermarkets and restaurants due to poor food safety standard compliance (Okunlola et al., 2016).

Given these shortcomings, these farmers have a minimal market size. Hence, they often lack market access and marketing contracts (Mmbengwa et al., 2011). Studies have not accounted for whether the lack of notable product qualities and market structures may be other variables that may be influential in reducing the entrepreneurial competitiveness of this sector. However, this study has formulated the hypothesis mentioned below to that effect.

Hypothesis 4: Outstanding product quality is a positive and significant factor in the entrepreneurial competitiveness of smallholder farming in South Africa.

4.8.3 Social capital

The challenges associated with smallholder farming in South Africa were complex to accurately diagnose and relate to well-established agrarian theories (Mmbengwa, 2009). However, Jordaan et al. (2014) have identified some of these challenges. Furthermore, they have associated them with various factors, including the prevalence of the stringent food safety standard requirements for designated traditional market access in the commercial agri-food value chains and poorly managed commercial institutions. In addition, various authors (Bienabe and Vermeulen, 2007; Louw et al., 2008) seem to think that lack of adherence and compliance to such standards have impacted adversely to the abilities of this sector to gain access or at least to consistently supply good quality products with a favorable high price for their produce.

The current research (Khaile, 2012; Baloyi, 2010) also showed that despite the quality of the products and the fulfillment of the food safety standards, this sector has been struggling to work collectively to increase their products that could enable them to improve the volume of their products for secondary products such as agro-processing to take place. Ortmann and King (2010) and Ntsonto (2005) further suggested that insecure property rights and lack of land resources have not made it easier for this sector to penetrate formal commercial markets despite their consistent government support as a strategic sector earmarked by the contemporary South African agricultural sector.

Given the continued complexities emanating from this sector's inability to exploit the available opportunities presented by the current government, other authors seem to think that other challenges that are associated with the inability to access credit (Van der Heijden, 2010), the disappointing situation of physical infrastructure (Jordaan et al., 2014, Ortmann and King, 2010); trust lack among value-chain participators (Van der Heijden, 2010; Randela et al., 2008,); market information inequality and lack (Baloyi, 2010; Randela et al., 2008;); far away from the market (van der Heijden, 2010; Baloyi, 2010); as well as being short of support services (Van der Heijden, 2010; Anseeuw et al., 2000) severely constrain the viability and sustainability of this farming sector.

Sen and Cowley (2013) and Ghoshal (1998) reported that long-term competitive advantage is required for businesses to succeed. This advantage requires entrepreneurs to facilitate competencies and resources to provide customer loyalty. Larson (1992) acknowledged that through social capitalism, reciprocity of mutual obligations could generate a dominant competitive position and power to run social governance. However, Fuller and Tian (2006) recognized social capital as key to yield networks which could ensure that small businesses (such as smallholder farming enterprises) conquer the limitations often encountered by large organizations.

Liao and Welsch (2005) and Murillo and Lozano (2006) suggested that network links can provide information and resources to assist SMEs with their operations. In addition, Nahapiet and Ghoshal (1998) demonstrated that social capital could be necessary as a promoter for the development of intellectual capital. On the other hand, Ghoshal and Moran (1996) saw social capital organizing emerging businesses such as smallholder farming enterprises.

Given that social capital is perceived as underpinned by two theoretical models led by Bourdieu and Putnam (Sen and Cowley 2013), this study has attempted to use their work as the baseline. In addition, Bourdieu (1986) reportedly concentrated on the role of distinctive capital forms in reproducing unequal power relations. On the other hand, Coleman (1990) focussed on the facilitation part of the social capital structures. In social capital structures, it was reported that the facilitative nature of the social capital structure relied on trustworthiness, the information capability to move via the social structure to offer the presence of norms, and a basis for action (Sen and Cowley 2013). Black farmers are the custodian of the smallholder farming sector in South Africa and are credited for embarrassing the collective farming culture and traditions. The fact that the smallholder farming sector cannot exploit the abundance of social capital opportunities makes the smallholder farming sector weakened and vulnerable in various levels of business operations. Hence, the following hypothesis was formulated in the current study:

Hypothesis 5: At least one of the social capital factors influence the smallholder farming sector of South Africa.

4.8.4 Entrepreneurial leadership

Business success is positively associated with enterprises' leadership and strategic and organizational change (Urban, 2016). However, numerous authors (Karpouzoglou and Barron, 2014, DeMartino et al., 2006; Singh et al., 2001) indicated that entrepreneurial and managerial behaviors underpin this type of leadership. In addition, behavior is impacted by different factors (such as gender, age, education, formal experience in business, number of family members and dependents, and management skills). Patterson (2011) recognizes entrepreneurial leadership as influenced by gender, social process, individual agency, etc.

4.8.4.1 Growth orientated smallholder entrepreneurship

Growth theories have always defined smallholder farming systems' dynamic expansion and commercialization. Entrepreneurs such as smallholder farmers must function to maximize resources to ensure their commercialization (Mendola 2005). In addition, Van der Ploeg (2014) demonstrated that more than ninety years ago, China's smallholder leaders defined growth objectives and orientation. Using their agri-policies and three Nong principles (agriculture, farmers, and rural areas), peasants' incomes are improved using enhanced labor productivity. However, Nong Cun (rural areas) advocated for the quality of rural life, the liveability of rural villages, and smallholder farming systems as a source of commercialization.

The Chinese government believes that small-scale peasants can remarkably reduce food insecurity (Molewa and Doidge, 2010; Otsuka, 2013; Mukwada et al., 2020; Guo et al., 2021). In the light of Backeberg and Sanewe (2010), agriculture is crucial to rural livelihoods and economic development through offering food products. The New Growth Path enacted by the South African Department of Economic Development has committed itself to expanding smallholders to half a million Rand by 2020 (EDD, 2010; Aliber & Hall, 2012). Smallholder agricultural promotion is associated with the quest for growth of the sector (World Bank, 2007).

Schumpeterian models suggested that smallholder farming should focus on technological progress and human capital formation to commercialize its trade and expansion (Castellacci *et al*., 2014). In addition, the neoclassical growth model seems to advise that growth opportunities arose from the threshold of externalities in the accumulation of human capital (Dzambazka, 2013). Finally, emerging endogenous growth theories brought forward the idea that endogenous conditions like foreign trade policies, human capital, public expenditures, and financial development can influence the growth of agri-economy (Kesikoglu and Öztürk 2013). However, the current research aims to examine the influence of growth factors on smallholder entrepreneurship. This hypothesis was formulated to direct the current investigation.

Hypothesis 6: On average, growth factors impact the entrepreneurial leadership of smallholder farming enterprises in South Africa.

4.8.4.2 Mentorship of membership entities

Coaching and mentorship are essential in developing entrepreneurs and enterprises (Washington et al., 2014). Mentorship was developed from the transformational leadership theories and is linked with four dimensions of the transformational leadership philosophies (Piccolo 2004). Individualized consideration, inspirational motivation, idealized influence (charisma), and intellectual stimulation form part and parcel of tools to turn the entities' strategies positioning.

Individualized consideration of the entities was key to providing a background for coaching and mentorship by thought leaders (Washington et al., 2014). On that basis, idealized formed the fascinating element of transformational leadership where leaders are admired, respected, and ultimately stimulated by their followers (Avolio & Bass, 2002; Bass, 1998; Bass & Avolio, 1994). Moreover, inspirational motivation emphasizes affectionate communication of an inspiring and appealing organizational vision (Hater & Bass, 1988).

While intellectual acceleration and stimulation aim to improve the follower's consciousness of problems, followers were encouraged to contemplate novel and old perspectives (Bass, 1985). However, entrepreneurs who utilize intellectual stimulation ask for followers' viewpoints, take risks, challenge suppositions, and irritate creativity within their followers (Avoilio & Bass, 2002; Judge & Piccolo, 2004). The current study examines the influence of smallholder entrepreneurs' mentorship. The following hypothesis was formulated to direct the present investigation.

Hypothesis 7: On average, mentorship is necessary for the entrepreneurial leadership of smallholder farming enterprises in South Africa.

4.8.4.3 Government support

In South Africa, white farmers predominated the agricultural scope for decades because they received support services and government resources (Weiner, 1989). Meanwhile, Satgar (2011) has presented that the influence of government support towards white commercial farmers (via government assistance policy) has improved their tight control over critical parts of South Africa's globalized agricultural food complex. However, the government support for white agri-cooperatives is one of a long history of agricultural development of inequality in South Africa. The oppressive characteristics of government legislation during the apartheid time have rendered smallholder farming unorganized and unproductive. In other words, black farmers were also restricted from productive land resources and forced to work within 13 percent of the national land area. The latter has made these farmers called small-scale farmers.

In the light of De Janvry (2010), agricultural underperformance is linked to continued under- and irrelevant agricultural investment by most local governments and international investors. However, smallholder cooperatives have been supported with critical farming equipment (Satgar 2011). Furthermore, Dzambazka (2013) reported that governments could improve the enterprise’s growth by offering foreign direct investments, public inputs, and educational opportunities.

Using the polymerization of these governments' policies and decisions, the growth rate could become evident and could thus be influenced by tax revenues. It was evident that African rural stakeholders and producers did not get the relevant benefit from the first Green Revolution in the 1960s and 1970s, mainly because the African governments did not provide additional support, such as input subsidies and infrastructure investments, etc. (Markelova and Mwangi 2010).

Through appropriate support systems and decisive government leadership, smallholder peasants could be well organized into successful enterprises (Landis *et al*., 2014). Due to Maccoby (1979), worker attitudes, technological advances, and supportive government regulations are essential for enterprises to be successful in a competitive world. The current study examines the influence of government support on the development of smallholder entrepreneurs. This hypothesis was formulated to guide the current investigation.

Hypothesis 8: On average, government support is necessary to develop entrepreneurial leadership of the smallholder farming enterprises in South Africa.

4. 8.4.4 Effective communication

Globally, smallholder peasants are challenged by restricted access to technology, best practices, productivity enhancement inputs, and weak links to agricultural value chains (Tinsley and Agapitova 2018). Linking agricultural value chains requires effective communication between entrepreneurs and their agencies (Suter *et al*., 2009). Communication also encompassed negotiating and resolving conflict, coordinating care, and using language appropriate to influence the target audience. Therefore, effective communication strategies could interpret how to set up an agri-sector adopting high-ranking technologies for growth and development (Stevenson *et al*., 2018).

Everett M. Rogers, in 1962 developed the dissemination of innovation theory which underpinned the field of communication (Kigatiira *et al*., 2018). Diffusion was referred to as a procedure where a novel idea is transferred through certain media over time, targeted to social system members such as smallholder farmers. The theory expresses that the sources of a novel idea (opinion of leaders) should not be biased and should be reliable to the adopters ((Kigatiira *et al*., 2018). In addition, good and successful communication presupposes extension services where the agri-sector disseminates agricultural technologies and information to the agri-entrepreneurs (Ameru *et al*., 2018; Jenny, A.C., 2010). Ameru *et al*., (2018). Mobile phones were ranked the most important and influential communication channels by 67 to 79% of participants.

In addition, Kalusopa (2005) indicated that small-scale peasants faced employing information technologies for the economy's growth and concluded that lack of electrical connections in their farms, high tariffs, and lack of government support prevent effective communication of the smallholder farmers. Powerful teamwork and effective communication are necessary for delivering high-level services (Leonard *et al*., 2004). This kind of communication could encourage entrepreneurs to transfer their viewpoints of the available information to the relevant stakeholders; furthermore, this could also have a real influence on the political sector (Bolsen and Shapiro 2018). Consequently, the current research examines the influence of effective communications in developing entrepreneurial leadership in the South African smallholder sector. This hypothesis was formulated to direct the current investigation.

Hypothesis 9: On average, effective communication is necessary for developing entrepreneurial leadership of smallholder farming enterprises in South Africa.

4.8.5 Commercialization of smallholder farming

One critical factor that explains SMEs' higher propensity for innovation is the shorter time needed for commercialization (Petkovska, 2015). However, smallholder farming has been stubbornly resistant to adopting recent innovations necessary to commercialize their products. In some instances, this happens despite the comprehensive support offered by their governments. Various factors may have constrained the capacity for this farming system to assume the commercial stage of their businesses but resistance to the adoption of the innovation is one of them.

4.8.5.1 Entrepreneurial leadership and enterprise performance

Entrepreneurial leadership (EL) combines entrepreneurship and leadership (Dabic et al., 2021). This combination enables the organization to gain a competitive edge (Roomi and Harrison, 2011, Zainol et al., 2018). Cohen (2004) also defined EL as any leadership that could create conditions for entrepreneurial activities to succeed in achieving their goals. This confirms that entrepreneurial leadership is derived from both leadership and entrepreneurship principles.

This assertion is so because entrepreneurship is recognized as a critical factor in organizational progression and economic growth (Antoncic and Hisrich 2001; Drucker 2002; Erasmus and Scheepers 2008; Supriyadi et al., 2018), while entrepreneurial behaviors and attitudes were reportedly known as critical determinants of the survival and prosperity of established enterprises in a business environment (Lumpkin and Dess 1996). Furthermore, these authors pointed out that start-up ventures and existing firms rely on entrepreneurship for business expansion.

Henceforth, enterprise performance and expansion require an entrepreneurial leader who can provide direction in a complex, uncertain, and dynamic competitive environment (Cohen 2004; Chung-Wen 2008). Furthermore, Supriyadi et al. (2018) found that a competent entrepreneurial leader has a significant and positive influence ($\beta = 0.070$, $p < 0.01$) on business performance. These results show that leadership plays a significant role in the success of corporate strategy management.

Loshali and Krishnan (2013) and Luxmi (2014) reviewed enterprise performance and concluded that the actual results generated by an organization compared to its planned outcomes are results of entrepreneurial leadership. On the other hand, Tseng and Lee (2014) regarded enterprise performance as a combination of the efficiency and effectiveness of individuals, teams, and the organization's collective efforts. All these require entrepreneurial leadership for their attainment.

In addition, Loshali and Krishnan (2013) found that entrepreneurial leadership is essential for enterprise performance, and its transformational nature leadership appeared to have a high propensity to significantly increase enterprise performance in the context of a strategic management point of view. This finding seems to be a critical point for the growth and expansion of the enterprises confirmed in other studies (Masa'deh et al., 2018).

However, Frederick et al. (2007) further stated that EL is a dynamic process that encapsulates the organizational vision, change, and re-engineering. Therefore, it could be argued that expansion and growth could be inhibited without the dynamic nature of entrepreneurial leadership. Zainol et al. (2018) highlighted that the ingredients of this leadership consist of the willingness to take calculated risks, formulation of an effective venture team, and the creative skill to marshal the needed resources. However, the essential skill of establishing an effective business plan and the vision to achieve opportunities where others see contradiction, chaos, and confusion is traced from this type of leadership capability. The present research aims to examine the impact of entrepreneurial leadership on entrepreneurial performance. The objective is to foster the commercialization of smallholder farming in South Africa. The following hypothesis was formulated:

Hypothesis 10: In smallholder farming in South Africa, entrepreneurial leadership (EL) has a significant mediating influence over entrepreneurial performance (EP).

4.8.5.2 Competitive advantage and enterprise performance

Competitive advantage is seen as having superiority over competitors regarding customer preferences (Indrajit, 2002, Palandeng et al., 2018). According to Palandeng et al. (2018), competitive advantage is generated by a company's ability to position itself as the prime source of affordable, quality, and accessible products and services. In addition, Porter (2008) argued that an enterprise could be competitive if it has technology, unique product, and services. Finally, Porter and Sakakibara (2004) highlighted the benefits of competitive advantage as associated with, amongst others, the increase in a company's product market share and value.

Therefore, increasing the company's competitive advantage may imply that the enterprise's performance and competitiveness could be retained to benefit the competitive firms (Porter and Teisberg 2004). Impliedly, a competitive company could fulfil its company's goals and missions and, thus, could be regarded as a good-performing enterprise. Bernardin and Russell (2000) defined performance as a record of outcomes produced on specified job functions or activities over a certain period. Their definition of enterprise performance was echoed by Gibson et al. (2003), who seem to think that performance could be associated with organizational goals, mission, efficiency, and effectiveness.

Given the business profile of the smallholder farming entrepreneurs in South Africa, where institutionalization of such sector is in doubt due to the level of disorganization, lack of necessary farming infrastructure, market access, market intelligence, and land (Jordaan et al., 2014, Okunlola et al., 2016), competitive advantage of their product and services are low. Therefore, according to Antwi and Oladele (2013), for smallholder farming to gain a competitive advantage to compete at commercial and formal markets, they should be provided with managerial and technical farming skills.

This pronouncement suggests that smallholder farmers in South Africa lack the necessary infrastructure to compete in a formal market and lack technical and managerial skills. However, farmers could not make a good farming decision without the latter. Therefore, although the study is aware that the smallholder farming sector in South Africa has been operating at a lower quantum of competitiveness and enterprise performance, the study sought to determine the relationship between competitive advantage and enterprise performance by stating the following hypothesis.

Hypothesis 11: In smallholder farming in South Africa, competitive advantage (CA) has a significant mediating influence over enterprise performance (EP).

4.8.5.3 Social capital and enterprise performance

According to Barr (1998), social capital is a network of interrelationships that enhance enterprise performance in various regions, such as sub-Saharan Africa. Boudreaux et al. (2021) further confirmed that social capital is a network that helps to form social relations. Kaririza et al. (2021) denote that social capital can improve the household development outcome. Barr (1988) viewed the resultant enterprise performance as an essential capital for the growth and sustainability of the enterprise. The cognitive and structural social capital could improve its income-generating capacity and ability to compete amongst other enterprises (Adedeji et al., 2021). In general, networks serve to reduce the volatile income uncertainties entrepreneurs face (Barr (1998).

From a social capital theory perspective, network relationships provide members with the collectivity-ownership of capital and credentials that improve the credit for their businesses (Bourdieu, 1986, Tasavori et al., 2018). In addition, it appeared that networks play an essential role as a channel to disseminate innovative information. The lowering of transaction costs improves the potential of the labor division between different enterprises and further fosters collective action. This added benefits for robust social capital network arrangements (Barr, 1998). Thus, social capital could directly influence enterprise performance by offering information about the world, particularly technologies and markets.

Furthermore, Coleman (1988) and Putnam (1995) reported the relational dimension of social capital and concluded that it focuses on obligations, norms, trustworthiness, and reciprocity. Kumi and Sabherwal (2018) found that structural and cognitive capital facilitate combination and exchange behaviors while relational capital does not. These researchers reported that social capital facilitates individual enterprises' relations and performance (Kim and Shim 2018; Setini et al. 2020; Kalra et al. 2021).

These findings were confirmed by Glaveli and Georgas (2018), who found that cohesive vision has a direct and positive association with the social effectiveness and profitability elements of enterprise performance. Furthermore, the effect of social capital (on small-medium enterprises) was found to be significantly positive in improving the performance of these enterprises (Lawal et al., 2018). However, none of the studies has shown these relationships between enterprise performance and social capital in the smallholder farming sub-sector. This has prompted the formulation of the following hypothesis that seeks to determine the effect and relationship of social capital in South Africa's farming typology.

Hypothesis 12: Social capital significantly influences enterprise performance (EP) in smallholder farming in South Africa.

4.8.5.4 Entrepreneurial leadership and competitive advantage

Renko et al. (2015) referred to entrepreneurial leadership as a combination of leadership and entrepreneurship, wherein leadership influences organizational effectiveness and entrepreneurial behavior (Yukl 2008). The entrepreneurship part of entrepreneurial leadership provides an advantage of available opportunities (Renko et al., 2015). Successful and sustainable entrepreneurship requires individuals with unique personality traits to influence the organizational success (Beattie 2016) significantly. Endogenous growth models emphasize increasing the enterprise's competitive advantage by involving dynamic entrepreneurial leadership to drive technological innovations (De Dominicis et al., 2013).

According to Beattie (2016), entrepreneurial leadership embodies characters associated with accountability, analytical thinking, responsibility, and emotional intelligence. Such characters were seen to be instrumental in increasing the performance and the sustainability of micro-enterprises (Beattie 2016), such that they possess necessary competitive advantages.

Entrepreneurial leadership is critical in knowledge-based economies where the competitive advantage of firms, regions, and countries is related to successful innovation (De Dominicis et al., 2013). The resource-based theory further explains how venture leadership could nurture and sustain competitive advantages. The literature further reveals that for enterprises to enable the accumulation and deployment of venture-specific capabilities and resources (Barney 1991, 1996; Penrose 1995; Peteraf 1993; Johansson and Malmstrom 2013), the enterprise must allocate adequate productive resources.

Today, a crucial issue is how innovative enterprises can develop competitive advantages using obtaining access to competitive resources (Grant 1991, Johansson and Malmstrom 2013). Various authors have proposed creating sustainable competitive advantages (Barney 1991; Barney and Hesterly 1996; Johansson and Malmstrom 2013). This viewpoint indicates that an enterprise's resources should be imperfectly imitable, valuable, rare among competitors, and without strategically comparable substitutes (Johansson and Malmstrom, 2013).

Petkovska (2015) reported that competitive advantage could also be enhanced by discovering new and better ways of competing in an industry. Webb et al. (2013) contended that resources could be the basis for a firm's source of competitive advantage. However, smallholder farming in the South African environment has been deprived of necessary farming resources such as land and agricultural infrastructure (Mmbengwa et al., 2011), making it less competitive. The present study has formulated the following hypothesis.

Hypothesis 12: In smallholder farming in South Africa, entrepreneurial leadership significantly mediates recursive influence over the competitive advantage (CA) and vice versa.

4.8.5.5 Entrepreneurial business development framework

Nieman et al. (2003) have reported an entrepreneurial business development framework for South Africa. In their articulation, social capital (SC), entrepreneurial leadership (EL), and competitive advantage (CA) were factors that could influence entrepreneurial performance (EP). The latter was the mediator for economic advancement (EA). In this study, EA is considered commercialization, where smallholder farmers could be economically viable.

The strategic goal of the South African government has been to ensure that smallholder farming enterprises become participants in the commercial agricultural system. The South African authority perceives the achievement of the commercialization of the smallholder farming system as a culmination of the united agricultural (Aliber and Hall 2012). In Sub-Saharan Africa, an essential strategy for rural sustainability, food security, and poverty reduction to enhance commercialization and productivity among smallholder farmers is smallholder commercialization (World Bank, 2008, Abate et al., 2014). However, for commercial productivity to be attained, smallholder farmers must be better equipped with new technology and technical efficiency (Abate et al., 2014).

In addition, Timmons and Spenelli (2004) confirmed that entrepreneurial leadership (EL) could play an important role in entrepreneurial business performance. However, these authors were not specific on whether competitiveness (CA) could advance a business's economic prosperity. On the other hand, Wickham (2004) revealed that venture performance causes entrepreneurial leadership. This assertion suggests that there could be a non-recursive association between Competitive advantages (CA) and entrepreneurial leadership (EL).

However, both seem to cause the business venture's improved economic viability (EA). Despite their possible relations, the question may be asked regarding the critical factors in the smallholder farming sector that constitute entrepreneurial leadership (EL), competitive advantages (CA), and Economic advancement (EA). If clarity on these factors is sought, then a model could be constructed to test the non-recursiveness of CA and EL, followed by EL and CA's causality effect on EA. The

findings could help answer which factors could be significant in driving the commercialization of these farming enterprises. This empirical investigation can be accomplished using the following hypotheses were formulated:

Hypothesis 13: In smallholder farming in South Africa, enterprise performance (EP) has a significant mediating recursive influence on commercialization.

4.9 QUANTITATIVE METHODS

Various methods were presented for different objectives of the studies. Hence, the methods were presented in this section of the study.

4.9.1 Entrepreneurial performance

4.9.1.1 Procedures

The procedures for collecting the data were based on seven steps. The first step was about defining the population of interest. In contrast, the second step was the selection of data collection methods, followed by the specification of the sampling frame, selection of sampling methods, determination of sample size, and operational and execution of the operational plan (see Annexure 2). The execution was done per province, and data collection was only done after an assurance was made that farmers would be available for data collection. This approach implied that farmers would have been informed by their respective industry leaders to schedule the meeting. Furthermore, the farmers' availability was a determining factor in checking whether the attendance would represent the farmers' population in that province area. After determining the representativeness, the researcher would sanction the data collection gathering.

4.9.1.2 Predictor measures

It is well established that smallholder farming enterprises are not entrepreneurial-orientated in South Africa. Thus, its production system seems driven by traditional or indigenous business methodologies (Mmbengwa et al., 2013). Henceforth, their transformational processes sought to ensure this sub-sector is entrepreneurial-orientated by commercializing its production operations (Operation Phakisa, 2016). Considering such inadequacy and a lack of theoretical direction on the information of the construct in question, predictors' scale measurements were designed.

Wickham (2004) proposed using a semantic differential rating scale for the following predictors, i.e., industry knowledge, general management skills, human relation skills, and personal motivation. The measurements were (1 to 4 represented not important, 5 to 6 represented moderately important, and 7 to 10 represented extremely important). The measures above were preferred to test the influence of the predictors on the smallholder farming entrepreneurial performance in South Africa. Therefore, the respondents were requested to rate these predictors according to their importance in the smallholder farming systems (see annexure 1).

4.9.1.3 Model specification

This study used a hierarchical multiple linear regression model (HMLRM). This model was found to be appropriate as it is deemed helpful in evaluating the contribution of predictors above and beyond previously entered predictors (Lewis, 2007). Furthermore, this author pointed out that HMLRM is a sequential process involving the re-entering of predictor variables into the model in a sequential manner based on theoretical considerations. In addition, Pedhazur (1982) demonstrated that Hierarchical regression is essential for analysis which explains the variances that are correlated to one another, and it is also crucial in explaining the effect of the predictors after controlling for one other variable (Lewis, 2007). The abbreviation of the predictor variables was explained as follows:

Y_{ENTP} = Entrepreneurial performance (ENTP), α = constant, E = residual (error term), IK = Industry knowledge, GMS= General Management skills HRS= Human relationship skills, and PM= Personal motivation.

As with most statistical models (Woltman et al., 2012), essential assumptions of hierarchical multi-linear models were tested and fulfilled. Thus, the relationship between entrepreneurial performance and the farmers' rating of the smallholder farming performance was tested. The objective was to determine whether industrial knowledge can predict smallholder entrepreneurial performance above and beyond managerial skills, human relation skills, and personal motivation. The data structure in this analysis followed a three-step model where two predictor variables (Industry knowledge and management skills) were entered in the first model as demonstrated below:

$Y_{ENTP} = \alpha + \beta_1 IK + \beta_2 GMS + E_1$ ..... (1)

The above model tested the effect of industry knowledge and management skills on the entrepreneurial performance of smallholder farmers in the South African environment. Theoretically, the knowledge of the industry and the management of the resources are the prime factors that affect the sustainability of any enterprise (Choi and Williams, 2014; Antwi and Oladele,2013; Karpouzoglou and Barron, 2014). Therefore, the second model included human relation skills beyond the previously mentioned predictor variables.

$Y_{ENTP} = \alpha + \beta_1 IK + \beta_2 GMS + \beta_3$ HRS + E_2 .....(2)

The purpose is to test for the effects of the three predictor variables on the entrepreneurial performance of the same farmers. This inclusion is supported by the South African empowerment act no.46 of 2013, which signifies that human resource skills are essential to improve the sustainability and productivity of historically disadvantaged businesses from the South African context. Lastly, the third model comprised an additional predictor variable (personal motivation) and was presented as follows:

$Y_{ENTP} = \alpha + \beta_1 IK + \beta_2 GMS + \beta_3$ HRS + β_4 PM + E_3 ..... (3)

These models tested the influence of all four variables on the entrepreneurial capacity of the farmers above in South Africa.

4.9.2 Entrepreneurial competitiveness

4.9.2.1 Research design

This study employed a sequential multi-phased explanatory mixed-research design (DuBois et al., 2016; Engelbrecht and Savolainen, 2018; Timpel and Harst, 2020). The first phase of the research used a quantitative approach where secondary data from NAMC was used, followed by focus group sessions to explain the quantitative variables found to be significant. In addition, a quantitative research instrument was used. The questionnaire was used to conduct face-to-face interview sessions. In this phase, a close-ended questionnaire was utilized. The second phase involved a qualitative research process aided by an open-ended questionnaire. The quantitative data were analyzed using hierarchical multiple regression models, whereas the qualitative data were analyzed based on narrative analysis of the phenomenon expressed in the themes. The data for this study came from 1115 smallholder farming enterprises in six provinces of South Africa. Of the 1115 participants, 645 (57.8%) respondents believed competitiveness for the smallholder farming sector is essential for the viability of their enterprises. On the contrary, only 258 (23.1%) felt it was not necessary, while 212 (19.0%) felt they were uncertain about its importance (see table 4.4).

4.9.2.2 Participants

The respondents' average age was 47.68 (SD = 15.09). 49.8% were males in this study, while 50.2% were females. This implied that the female participants in this study slightly dominated males. In addition, the study had participants who had a mean 10-year of business experience (SD = 11. 34) and seven years of sales experience (SD = 9. 37). The respondents' opinion about the need for competitiveness for the smallholder farming sector was drawn from different provinces of South Africa. In Limpopo province, 117 out of 150 respondents (78%) affirmed the need for the competitiveness of this farming sector. Other provinces showed similar trends to that of Limpopo's responses except for the respondents from Mpumalanga province (see Figure 4.1)

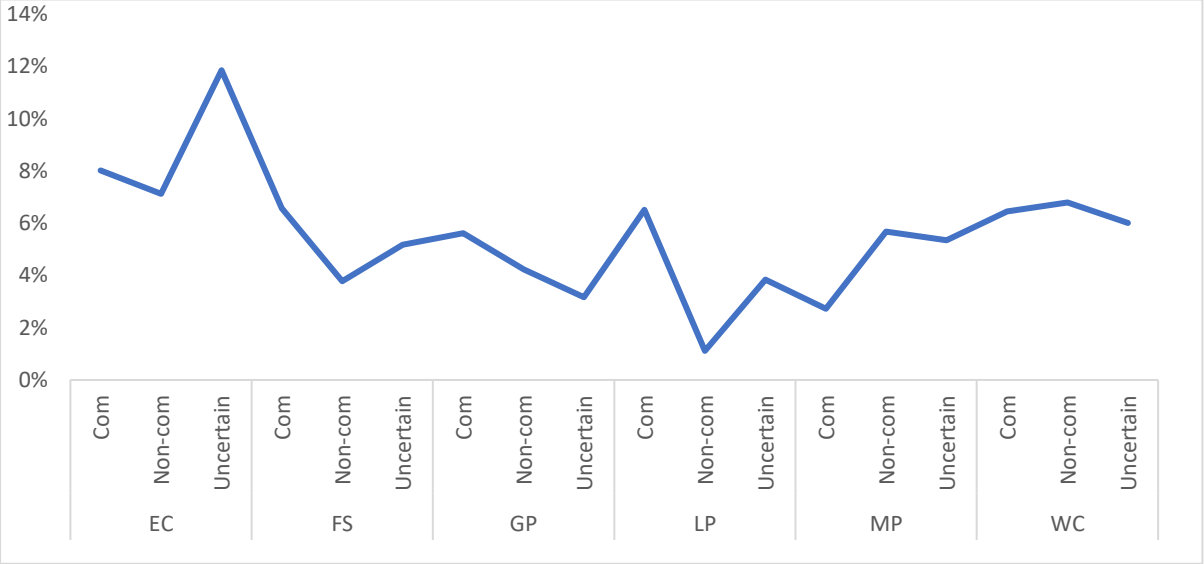
4.9.2.3 Procedures

The process of data collection was described as participatory because their leaders identified the participants. The researchers were allowed to be involved upon the participants' identification and granting permission. The first contact between the researchers and the participants during data collection was when the focus session was organized. During these sessions, participants were provided with detailed research information followed by participatory processes where participants could interact with information provided by the interviewers.

Table 4.4: Descriptive analysis of the competitiveness of the smallholder farming sector

Variables/ Provinces {N (%)}							
Competitiveness categories	**LP**	**GP**	**WC**	**MP**	**EC**	**FS**	**TOTAL**
Competitiveness	117 (78.0)	101 (63,9)	116 (54,5)	49 (37,1)	144 (51,6)	118 (64,5)	645 (57,8)
Non-competitiveness	10 (6,7)	38 (24,1)	61 (28,6)	51 (38,6)	64 (22,9)	34 (18,6)	258 (23,1)
Uncertain	23 (15,3)	19 (12,0)	36 (16,9)	32 (24,2)	71(25,4)	31(16,9)	212(19,0)
Total	150	158	213	132	279	183	1115

Notes: Pearson Chi-Squared= 74.825[a,] P < 0.00



Keys: Com= Competitiveness, Non-com = Non-competitiveness, EC = Eastern Cape, FS = Free State, GP = Gauteng, LP = Limpopo, MP = Mpumalanga, and WC = Western Cape.

Figure 4.1: Analysis of the importance of smallholder competitiveness across South Africa

After that, the researchers could hand over individual questionnaires to each participant. As a result of the literacy level of the participants, the researchers were also involved in translating the English questionnaires to different dominant local languages to facilitate accurate and precise responses amongst the participants. The completed questionnaires were collected from each participant. The collected questionnaires were verified in the research field and the office (off-site). The verification completion resulted in the coding of the questions to prepare for the data entry in the excel spreadsheet. The data was verified for quality after entry. When data met the quality specification, it was deemed ready for analysis.

4.9.2.4 Measure of operationalization of the study

The original questionnaire was written in English and translated into various local South African languages during the interviewing process (Yim et al., 2012). The research team designed and pre-tested the questionnaire on 83 smallholder farmers in the Raymond Mhlaba local municipality. The purpose of the pre-testing was to determine if the questionnaire items were simple and easy to comprehend during the interviewing process. The pre-test results have shown that some questions were not well formulated and thus not easy to comprehend. Therefore, such sections were identified and corrected.

However, no significant changes to the questionnaire items were required. Appendix A has provided a copy of the questionnaire and the scales with which the constructs were measured. The constructs in this research were measured using 10 points semantic differential scales (where 1-3 indicates poor rating, 4-6 = moderate rating, and 6-10 good rating). The questionnaire items were tested for internal consistency using Cronbach's Alpha and were found to be highly consistent ($\alpha = 0.924$). The study measured all the constructs using the reciprocity rating approach advocated by Cham and Li., 2010. According to these researchers, reciprocity is essential while investigating various resource exchanges.

4.9.2.5 Statistical analysis and model Specification

4.9.2. 5.1 Statistical analysis

The study hypotheses were assessed using hierarchical multi-linear regression model analyses. Thus, the entrepreneurial competitiveness of smallholders was tested. In addition, the predictor variables were selected using the automatic forward variables selection approach (Cesar, 2016). This was done to select against predictors without significant value towards entrepreneurial competitiveness of this farming sub-sector in the South African agricultural environment.

4.9.2.5.2 Model specification

The data analysis structure in this analytical framework followed four-step models where one predictor variable (unique service features) was entered in the first model, as demonstrated below. Where:

Y_{ENTC} = Entrepreneurial competitiveness (ENTC), α = constant, E = residual (error term), USF = Unique service features, PV = Price/Value,CE = Customer experience and NPA = Notable product attributes.

This complete model sought to test the effect of critical determinants of entrepreneurial competitiveness on smallholder farming in the South African context. The outcome of the quality of the model was discussed in the subsequent section.

$$Y_{ENTC} = \alpha + \beta_1 USF + E_1 \quad (1)$$

The above model tested the effect of unique service features on the entrepreneurial competitiveness of the smallholder peasants in the South African environment. Theoretically, uniqueness has a perceived value towards the competitiveness of any enterprise (Acs *et al*., 2013; Johansson and Malmstrom, 2013; Ghio *et al*., 2015)). This perception could positively influence the marketing outcome of the product design success (Chen et al., 2018). Therefore, the second model included price value to the unique service feature as mentioned in the following model below:

$$Y_{ENTC} = \alpha + \beta_1 USF + \beta_2 PV + E_2 \quad (2)$$

The purpose was to test whether the price value of products has a positive and significant influence on the entrepreneurial competitiveness of smallholder peasants in South Africa. Anzinger et al. (2017) found a positive relationship between quality and prices from 1999 to 2003. Furthermore, these authors reported that the relationship above was more pronounced for small enterprises than large-market capitalized enterprises.

However, Asness et al. (2013) examined the quality effect on stock prices, the ability of the price of quality to forecast future returns, the change in the price of quality over time, and the explanatory power of a unifying quality factor for excess returns. The

third model comprised notable product attributes (additional predictor variable) as presented below:

$Y_{ENTC} = \alpha + \beta_1 USF + \beta_2 PV + \beta_3 NPA + E_3$…… (3)

The purpose was to test whether unique product attributes positively and significantly influence the entrepreneurial competitiveness of smallholder peasants in South Africa.

This observation was important since smallholder farming cannot meet stringent food safety standards (Okello and Swinton, 2007, Mercado et al., 2018). Lastly, the fourth model made the inclusion of customer experiences as part of the predictor model:

$Y_{ENTC} = \alpha + \beta_1 USF + \beta_2 PV + \beta_3 NPA + \beta_4 CE + E_4$…… (4)

4.9.2.5.3 Model Summary

The model was summarized based on the assumption of the multiple linear regression model features. These assumptions confirm the presented models' quality, predictive power, and reliability. Therefore, the study tested the fitness of models and the presence or absence of heteroscedasticity, multicollinearity, and normality. The results of the test were presented in the subsequent sections below:

4.9.2.5.4. Model fitness

The summary results for model fitness are presented in Table 4.5 below. According to the results, all models developed have more than 50% R-Square values. This test implies that all the variables are nicely fitted. Furthermore, based on the F-statistics results, all the models and their combined predictor variables were highly significant in explaining the entrepreneurial competitiveness of the smallholder farming sector in South Africa. Thus, all the models were deemed good models for the test.

Table 4.5: Hierarchical model Summary for entrepreneurial competitiveness for smallholder farming

Variable	Cumulative		
	Adj R^2	R^2 -change	F-Change
Model 1 Unique service features (USF)	0,545	0,546	F (1, 1113) =1336.74***
Model 2 Unique service features (USF) Price Value (PV)	0,615	0,070	F (1, 1112) =204.103***
Model 3 Unique service features (USF) Price Value (PV) Notable Product Attributes (NPA)	0,635	0,020	F (1, 1111) =61.583***
Model 4 Unique service features (USF) Price Value (PV) Notable Product Attributes (NPA) Customer Experience (CE)	0,636	0,001	F (1, 1113) =4.070**

Notes: Dependent Variable: Competitiveness SD

4.9.2.5.5. Heteroscedasticity test

The test results for the heteroscedasticity are demonstrated in figure 4.2 below. The absence of systematic patterns confirmed that the residual was homoscedastic. This test indicated that the residual was free from heteroscedasticity, deemed desirable for the multi-linear regression model framework. Therefore, these models were acceptable for scientific prediction using the aforesaid analytical framework.

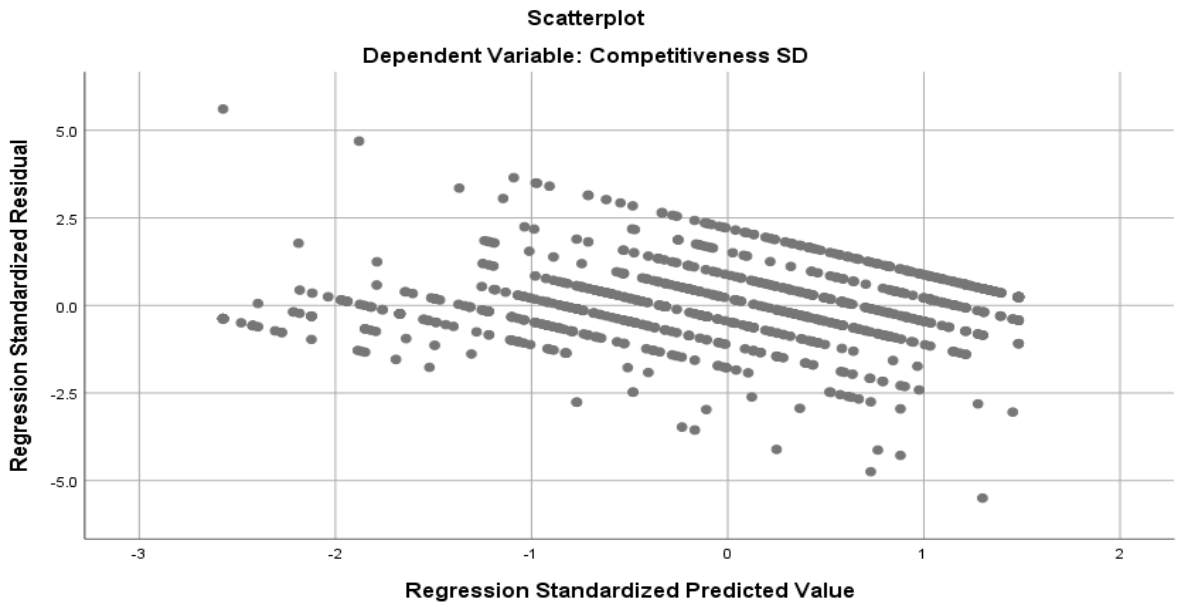


Figure 4.2: Test for heteroscedasticity on the residual

4.9.2.5.6. Multicollinearity test

Multiple linear regression models require their data to be normally distributed and linearly fitted to predict the values of a response variable (Graham, 2003). Fieberg et al. (2020) reported that the specific goal of these requirements is to establish a model employing the fewest variables to illustrate the most significant variation in the response and exactly parameterize regression coefficients for those variables. If all explanatory variables are dependent on each other, each regression coefficient will represent the total contribution of a given predictor to the responses (Graham, 2003), which is desirable. However, if two or more variables are collinear to each other to a certain extent, partial regression coefficients could get distorted. When the above take effect, multiple regression analyses could result in inaccurate prediction (Graham 2003 and Hocking 1996), and this phenomenon is referred to as multicollinearity.

Multi-collinear explanatory variables are hard to examine because their influences on the response variable could be due to authentic synergistic relationships (Graham 2003). Therefore, multicollinearity is un- desirable and could lead to a distorted trial outcome (Soh, 2014 and Kaycheng, 2015). Nevertheless, Kaycheng (2015) suggested that it is necessary to test for multicollinearity when using multiple regression analysis.

Testing of multicollinearity could be done by running the variance inflation factor (VIF) and tolerance (1/VIF) analysis (Almasarwah, 2020). The rule of VIF should be less than ten and tolerance more significant than 0.2 (Strauss, 2012). In this study, the first test of multicollinearity was done through examination of the R-squared; this was done with the view that multicollinearity makes the standard error of the predictor variables to be high, resulting in the small t-statistics, which further led to the insignificance of the p–values of the predictor variables.

Table 4.5 shows the R-Squared values of all the models considered in this study. The results showed signs of multicollinearity because all the R-squared values were below 70%. They implied that none of the models could explain the variability of entrepreneurial competitiveness above 64%. Verifying the presence of multicollinearity requires VIF and 1/VIF tests to be conducted, and the results are presented in figure 6.3 below. The results showed that VIF is less than ten and tolerance (1/VIF) is more significant than 0.2. This test implies that all our models were free from multicollinearity and that multiple regression should be applied as an analytical framework.

4.9.2.5.7. Normality of the multiple regression residuals

Normality assumption is commonly used when modeling residuals of load forecasts in a multiple regression model (Xie et al., 2017). However, various authors have reported the consequences of violating the normality assumption (Jarque and Bera, 1987; Schielzeth et al., 2020; Knief and Forstmeier, 2021). Given the inferential procedures, Box & Watson (1962) have considered the usual t and F-tests and demonstrated that sensitivity to non-normality could lead to the higher numerical values of the regressors and, consequently, could affect the significance levels of regressors adversely. In this study, the results of the tests for the normality of the residuals are presented in Figures 4.3 to 4.5. All the results presented in the figures showed that the residuals were normally distributed and thus indicated enough evidence confirming the normality of the residuals.

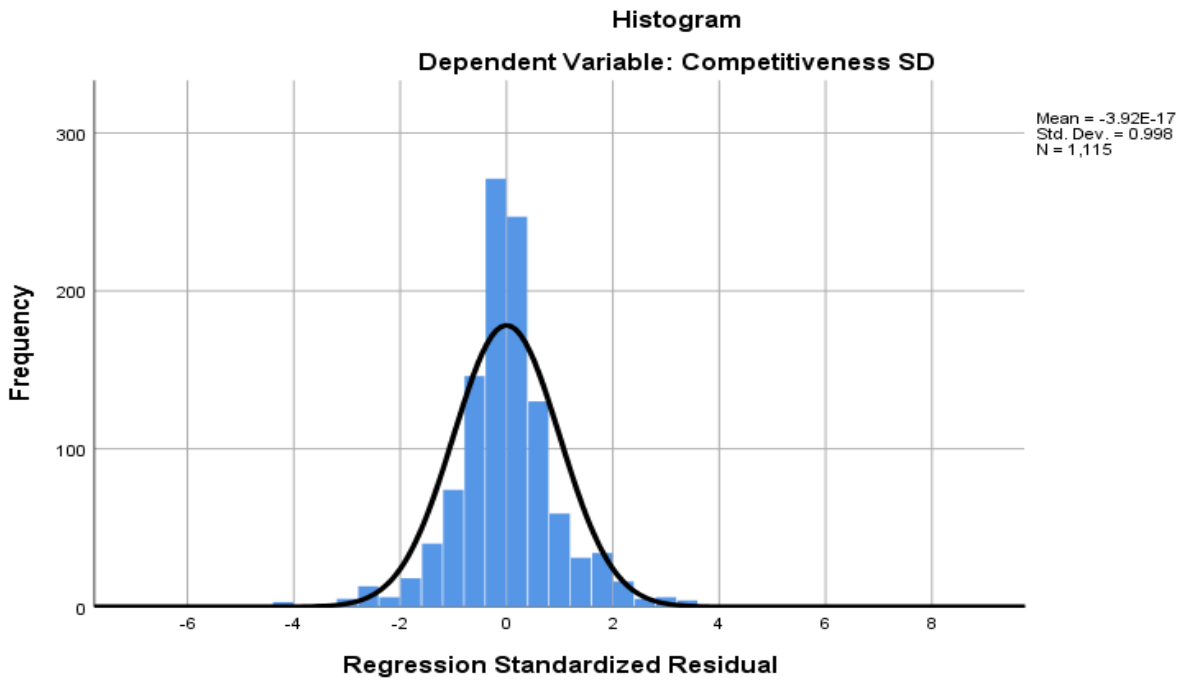


Figure 4.3: Normality test for residual using histogram

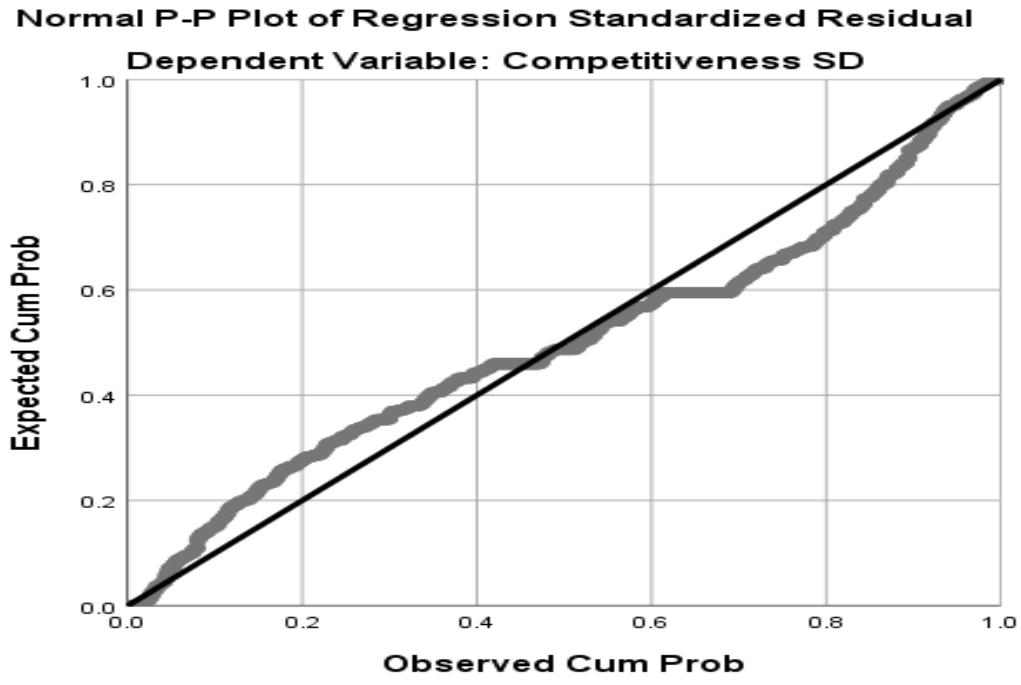


Figure 4.4: Normality test for the residual using P-P plot

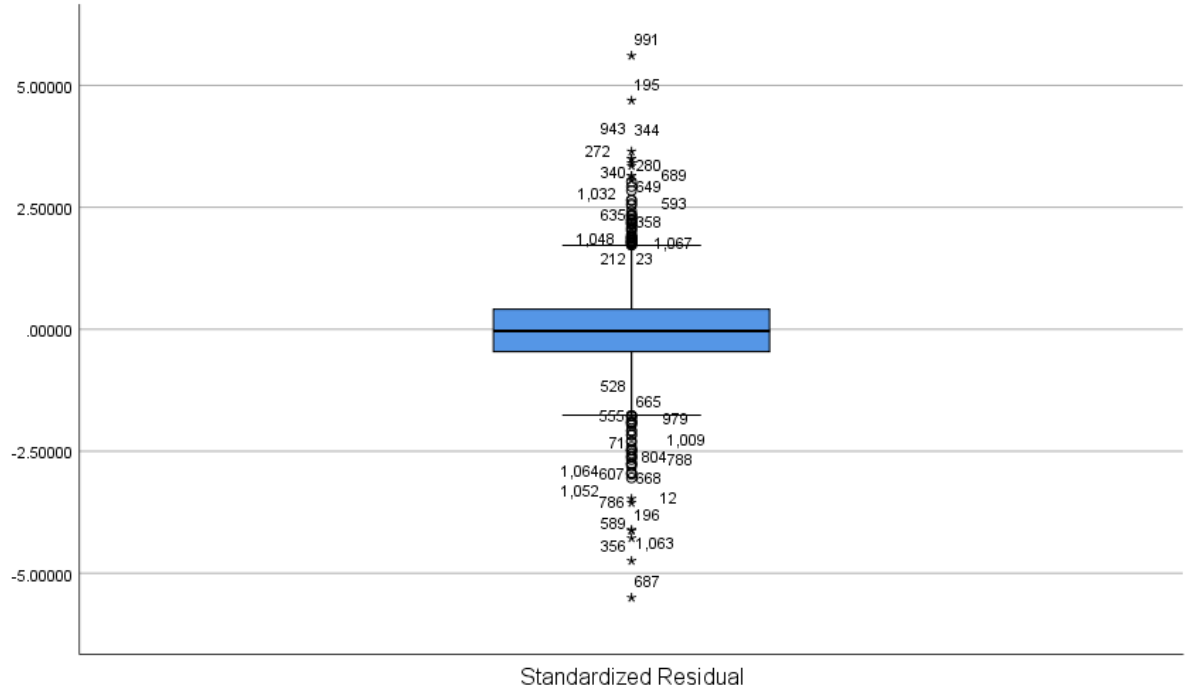


Figure 4.5: Normality test for the residual using box-and-whisker plot

4.9.3 Social capital for the smallholder farming

The method used in this study commenced by identifying an appropriate population and sample size where the cross-sectional study was to be conducted. This method was followed by determining the appropriate procedure to carry out the study. Upon identifying and determining the above, a research instrument was developed. In developing the research instruments, a determination of the measurement scale within the research instruments was made. Therefore, this section has provided a detailed account of the methodological aspects in the subsequent sub-sections.

4.9.3.1 Sample

The social capital of smallholder farming was estimated in six South African provinces. The data was gathered through a survey using face-to-face interviews. The sample consisted of (n = 1115) smallholder farmers. A high number of the participants were from the villages [n=742, (66%)], followed by those from the farming communities [n = 181, (16%)], with those from the township [n = 159, (14.3%), Suburb [n = 19, (1.7%)] and other areas [n = 14, (1.3%)] making the lowest proportion of the participants.

The distribution of the participants above was highly statistically significant (Chi-Squared = 190.46, P < 0.00). This result implied that the difference in the representation of those geographical areas was pronounced. Furthermore, it was found that the participants come from the 18 to 89 age brackets (M = 47.68, SD = 15.09). In terms of gender representativeness, it was found that males (49.8%) were dominated by females (50.2%), indicating that the participants were slightly gendered-balanced (See table 4.6). Although, it could be argued that women participants dominated the sample. The dominance in women's representation appeared to reflect the mirror image of the true nature of women's participation in smallholder farming in South Africa since rural smallholder farming is operated by most single-headed women households who often utilize this type of farming for household food security (Statistics South Africa, 2016). Furthermore, the participants had good business experience (M = 10.10, SD = 11. 34) and medium sales experience (M = 6.84, SD = 9. 37) measured in years.

Table 4.6: Descriptive analysis of the sample size

Cluster	Frequencies	Area of birth						Gender		Age	
Provinces	**N (%)**	**Total**	**Villages**	**Farms**	**Township**	**Suburb**	**Other**	**Male**	**Female**	**M**	**SD**
Limpopo	Count	150	131	14	4	1	0	104	46	48.88	12.27
	%	100	87,3%	9,3%	2,7%	0,7%	0,0%	69,3%	30,7%		
Gauteng	Count	13,5%	59	25	65	8	1	74	84	50.61	16.82
	%	158	37,3%	15,8%	41,1%	5,1%	0,6%	46,8%	53,2%		
Western Cape	Count	14,2%	152	17	33	4	7	68	145	36.25	14.50
	%	213	71,4%	8,0%	15,5%	1,9%	3,3%	31,9%	68,1%		
Mpumalanga	Count	19,1%	86	23	16	3	4	64	68	51.76	14.15
	%	132	65,2%	17,4%	12,1%	2,3%	3,0%	48,5%	51,5%		
Eastern Cape	Count	11,8%	195	57	23	2	2	146	133	52.41	14.09
	%	279	69,9%	20,4%	8,2%	0,7%	0,7%	52,3%	47,7%		
Free State	Count	25,0%	119	45	18	1	0	99	84	44.05	15.34
	%	183	65,0%	24,6%	9,8%	0,5%	0,0%	54,1%	45,9%		
TOTAL	Count	16,4%	742	181	159	19	14	555	560	47.68	15.09
	%	1115	66,5%	16,2%	14,3%	1,7%	1,3%	49,8%	50,2%		
	% Of Total	100,0%	66,5%	16,2%	14,3%	1,7%	1,3%	49,8%	50,2%		

4.9.3.2 Procedure

The evaluation processes were organized with the group's leaders of smallholder farmers through the Provincial Department of Agriculture and Rural Development (PDARD). Upon confirmation by departmental officials, the Field officers were dispatched to the research site, where they met the departmental officials for the briefing. In the briefing sessions by the department staff, permission to conduct the research (go-ahead) was received by the research team. The granted permission meant that all the requirements to conduct the research in those communities (stakeholders) were fulfilled.

After receiving the permission, the team started liaising with the organizing committees mandated by the stakeholders. The agreed schedules from the organizing committees culminated in the data collection. The focus group sessions presided over the data collection, where the study's context and purpose were explained to the participants. In this forum, the participants and the research team discussed ground rules and agreed upon them.

After a focus session, participants were asked to evaluate the importance of each identified social capital factor as an individual participant. This session was done to outline the importance of the project and the context of the research to the participants, given the low participation of these farmers in the entrepreneurial and commercial farming activities in South Africa (Okunlola et al., 2016) and the complex nature of measuring the concept of social capital (Guillen *et al*., 2011). This exercise was worthwhile.

4.9.3.3 Research Instrument

The research instrument designed to measure social capital in this farming sector consisted of 10 items. The reliability test determined the instrument's measurement level using Cronbach's Alpha. The Cronbach's Alpha of 0.953 was obtained from the test, signifying the high-reliability level. The results of the item analysis of the research instrument that demonstrate the level of reliability of the items under consideration are presented in Table 4.7 below:

Table 4.7: Item analysis and factor loadings for the social capital factors

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Credibility	52.79	198.636	.784	.949
Personal Vision	52.89	195.326	.813	.947
Market agencies	53.05	194.630	.802	.948
Farming Culture	52.77	192.676	.855	.945
Knowledge	52.78	194.177	.828	.946
Expertise	52.76	194.149	.845	.945
Leadership Readiness	52.78	194.073	.853	.945
Creativity	52.54	195.603	.813	.947

Notes: KMO= 0.927, Cronbach's Alpha = 0.953.

Exploratory factor analysis was conducted as a data reduction technique to summarize the items by viewing the loading values to the primary social capital construct. Based on the factor analysis results, two variables, entrepreneurial performance (Loading factor = 0.273) and leadership roles (Loading factor= -0.254), were excluded from further analysis due to low factor loadings. Moreover, the Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO) test was conducted and was found to be 0.953, which implied that the sample was sufficient and proper for factor analysis.

Furthermore, Bartlett's test of Sphericity was found to be highly significant, implying that the variance is not equal in the sample. The research questions test for the normality of the residuals was conducted by formulating the null hypothesis that residuals were normally distributed. The outcome of both the Kolmogorov-Smirnov and Shapiro-Wilk tests confirmed that the residuals were normally distributed, accepting the null hypothesis.

4.9.3.4. Measures

Before adopting the questionnaire items, these items were tested for their appropriateness and fit for purpose. The questionnaire portion (where aspects of the social capital reside) originally had ten items. The reliability test reduced ten questionnaire item analyses to 8 items. This was done due to the recommendation from the reliability test output, increasing a better internal consistency.

The data analysis presents 67% of the South African smallholder farming provinces. A summary of the eight items analyses is presented in Table 4.7 above. The items referred to above; were measured employing a ten-point semantic differential scale (Tustin et al., 2010; Kim et al., 2016), where 1-4 were in the scope of "not important," 5-6 were in the field of "moderately important," and 7-10 were "extremely important."

4.9.3.4 Statistical analysis

In this study, two analyses were conducted (cluster and multiple regression analyses). These analyses were conducted differently but complementary. For instance, cluster analysis was conducted to view the value of the identified predictors and to cluster smallholder farming based on the traits defining the strength of the social capital. Lastly, a multiple linear regression model was performed to test the combined influence on social capital in this farming sector.

4.9.3.4.1 Cluster analysis

Various key predictors were selected based on the outcome of their evaluation by the smallholder farmers themselves. These predictor factors were then used to cluster these farmers as either easy or difficult to network. Ruben and Heras (2012) noted that bonding and bridging categories could disaggregate social capita into social networks between homogeneous groups.

In South Africa, it is common to find that smallholder farming is erroneously classified as a homogenous group. However, their difference could be primarily influenced by demographic features (age, educational achievements, gender, and locality), commodity, culture, and production level. Therefore, to assume that they are not heterogeneous is by itself a big mistake. Therefore, DAFF (2013) has classified smallholder farmers into three categories based on their economic activities and land resource ownership.

4.9.3.4.2 Model Summary

The model's summary provided an overview of the social capital factors in this farming sector (see Table 4.8). In this summary, it was clear that the hypothesis that none of the models developed was good was rejected since all the models were found to be significant at a 5% probability. Furthermore, from the results of the R-squared, it was also found that the more predictor variables were included in the models, the better the model became (Leisman et al., 2020; Sharma et al., 2021).

Table 4.8: Model summaries for smallholder farming social capital factors

Variable	Cumulative		
	Adj R^2	R^2 -change	F-Change
Model 1			
Credibility	0,492	0,492	F (1, 1113) =1080.08***
Model 2			
Credibility, Leadership readiness	0,548	0,057	F (1, 1112) =139.92***
Model 3			
Credibility, Leadership readiness, and Expertise	0,561	0,013	F (1, 1111) =31.784***
Model 4			
Credibility, Leadership readiness, Expertise, and Market agencies	0.566	0,006	F (1, 1110) =14.847**
Model 5			
Credibility, Leadership readiness, Expertise, Market agencies, and Creativity	0.570	0,004	F (1, 1109) =11.346**
Model 6			
Credibility, Leadership readiness, Expertise, Market agencies, Creativity, and Farming culture	0.571	0,002	F (1, 1108) =4.66**

4.9.3.5 Model fitness

The model fitness was presented given the outcomes of the F-statistics (see Table 4.9). In the light of the results, all the predictors jointly or combined influence the social capital of the smallholder farming enterprises. Therefore, this test was appropriate and desirable since it showed that the models had predicted the model fitted nicely.

Table 4.9: Analysis of variance (ANOVA) for smallholder farming social capital factors

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3068.929	1	3068.929	1080.084	.000[b]
	Residual	3162.456	1113	2.841		
	Total	6231.385	1114			
2	Regression	3422.384	2	1711.192	677.410	.000[c]
	Residual	2809.000	1112	2.526		
	Total	6231.385	1114			
3	Regression	3500.510	3	1166.837	474.703	.000[d]
	Residual	2730.875	1111	2.458		
	Total	6231.385	1114			
4	Regression	3536.556	4	884.139	364.177	.000[e]
	Residual	2694.829	1110	2.428		
	Total	6231.385	1114			
5	Regression	3563.846	5	712.769	296.326	.000[f]
	Residual	2667.539	1109	2.405		
	Total	6231.385	1114			
6	Regression	3575.021	6	595.837	248.530	.000[g]
	Residual	2656.364	1108	2.397		
	Total	6231.385	1114			

Notes a. Dependent Variable: Social Capital

b. Predictors: (Constant), Credibility

c. Predictors: (Constant), Credibility, Leadership Readiness

d. Predictors: (Constant), Credibility, Leadership Readiness, Expertise

e. Predictors: (Constant), Credibility, Leadership Readiness, Expertise, Market agencies

f. Predictors: (Constant), Credibility, Leadership Readiness, Expertise, Market agencies, Creativity

g. Predictors: (Constant), Credibility, Leadership Readiness, Expertise, Market agencies, Creativity, Farming Culture

4.9.3.6 Multiple regression analysis

These models were used to examine the effect of predictor variables on the social capital of the smallholder peasant's system. This model was used after the conditions for applying the linear regression were tested and confirmed to have been fulfilled. After that, the results of the analyses were presented and discussed in the subsequent section.

4.9.4 Entrepreneurial leadership

4. 9.4.1 Sample

The sample was randomly selected from a cluster of positively participating in smallholding farming programs employing the stakeholder sampling technique (Kigatiira et al., 2018; Eiselen et al., 2005). These participants were drawn from farmers in six South African provinces. However, in the chosen sample, Rao Software was used.

4.9. 4.2 Procedure

The quantitative data was gathered through a survey questionnaire, while the qualitative data was collected using literature review and focus group session procedures. Twelve Focus Group sessions (FGSs) were undertaken before the interviews (see Plate 4.5). These procedures embarked upon were explained in section 4.9.3.2 above. The study team explained the project to the respondents to ensure that the respondents were well informed about the project (Kigatiiraet al., 2018). During explaining the project, the researcher informed the participants regarding the study details and guaranteed ethical considerations to them, which involved anonymity and confidentiality of the information. A bond was built during the data collection processes. During these sessions, the respondents permitted enumerators to conduct the study.

4. 9.4.3 Measures

The measurement of the questionnaire instrument was explained in detail in section 4.9.3.3 above. It was reported that the study was conducted in six provinces of South Africa. The questionnaire items were examined employing a ten-point semantic differential scale (Tustin et al., 2010), and the meaning of the scales was explained in the same section. Exploratory factor analysis (EFA) was also employed to determine the underlying factors. The eigenvalue, screen plot, factors loadings, and Cronbach alpha reliability were analyzed to consider the construct (Kim et al., 2016). The Cronbach alpha reliability was employed to illustrate the evidence of internal consistency.

Plate 4.5: Focus group sessions of the smallholder farmers

4. 9.4.4 Statistical analysis

4.9.4.4.1 Descriptive analysis of entrepreneurial leadership factors and correlation analysis

The descriptive analysis was performed to describe the respondents who were involved. The biographic and demographic information was the primary consideration in analyzing the descriptive nature of the participants. In this analysis, frequency distribution was provided for the categorical variables, while the measure of central tendencies was used for the numerical data. Moreover, the study reported the Pearson correlation coefficients with two-tailed significant values to measure the relationship between the variables under consideration.

4.9.4.4.2 Model Summary

The summary of the model provides the cumulative analysis of the model itself. In this analysis, the combined variability of the response variables was captured in adjusted r-squared and r-squared change (see Table 4.10). This summary shows the improvement of the models as more variables were included. It is shown that the final model accounts for 57.1% of the variability of the entrepreneurial leadership construct.

Variable	Cumulative Adj R^2	R^2 -change	F-Change
Model 1			
Growth	0,521	0,521	F (1, 1111) =1212.25***
Model 2			
Growth, Mentorship of members	0,557	0,036	F (1, 1110) =89.966***
Model 3			
Growth, mentorship of members, and government support.	0,569	0,013	F (1, 1109) =33.331***
Model 4			
Growth, mentorship of members, and government support.and Effective communication	0.571	0,002	F (1, 1108) =4.728**

In this summary, it was clear that the predictive capacity of the entire model was 57.1%. Furthermore, the subsequent changes in building up model 4 were significant. This analysis implies that the addition of the variables strengthened the final model.

4.9.4.4.3 Model fitness

The F-statistics was used to test the model fitness (see Table 4.11). All the models are shown as statistically significant ($p < 0.00$) to predict smallholder entrepreneurial leadership processes. This test indicates that the selected explanatory variables could jointly influence the entrepreneurial leadership of the smallholder farming sector in

South Africa. This analysis was reasonably necessary since it depicted that the models had good predictive power and a good fit.

Table 4.11: Analysis of the variance (ANOVA) of smallholder entrepreneurial leadership models

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3077,190	1	3077,190	1212,249	.000[b]
	Residual	2820,179	1111	2,538		
	Total	5897,369	1112			
2	Regression	3288,631	2	1644,315	699,645	.000[c]
	Residual	2608,739	1110	2,350		
	Total	5897,369	1112			
3	Regression	3364,748	3	1121,583	491,126	.000[d]
	Residual	2532,621	1109	2,284		
	Total	5897,369	1112			
4	Regression	3375,509	4	843,877	370,764	.000[e]
	Residual	2521,860	1108	2,276		
	Total	5897,369	1112			

a. Dependent Variable: Entrepreneurial Leadership

b. Predictors: (Constant), Growth

c. Predictors: (Constant), Growth, Mentorship of the members

d. Predictors: (Constant), Growth, Mentorship of the members, Government Support

e. Predictors: (Constant), Growth, Mentorship of the members, Government Support, Effective Communication

4.9.4.4.4 Multiple linear regression (MLR) analyses

Classical regression analysis' undertakes the homoscedasticity (H), normality (N), and serial independence (I) of regression residuals of the variance (Jarque and Bera, 1980; Istiqhomah et al., 2021; Ferraccioli et al., 2021). The violation of the normality assumption leads to inaccurate inferential estimations (Ouyang et al., 2021). In this study, three tests, such as homoscedasticity, normality, and multi-colinearity of the residuals, had to be confirmed for multiple linear regression models (DeForest et al., 2018; Pralle et al., 2018, Wisse and Sleebosrole 2016) and. Each test was illustrated, assessed, and interpreted in the following sub-section:

4.9.4.4.4.1 Normality test

The Shapiro-Wilk W test for standard data and a typical P-P regression plot were used to determine the normality of residuals (Niazian et al., 2018). Furthermore, the results showed that the residuals were normally distributed (W = 0.992, p > 0.295). Figure 4.6 below graphically illustrates the residual normality of entrepreneurial leadership. Both the outcomes of the graphical and numerical representation of the residual normality revealed that the residuals were normally distributed, and thus, it was proper and desirable to employ multiple linear regression models in this study.

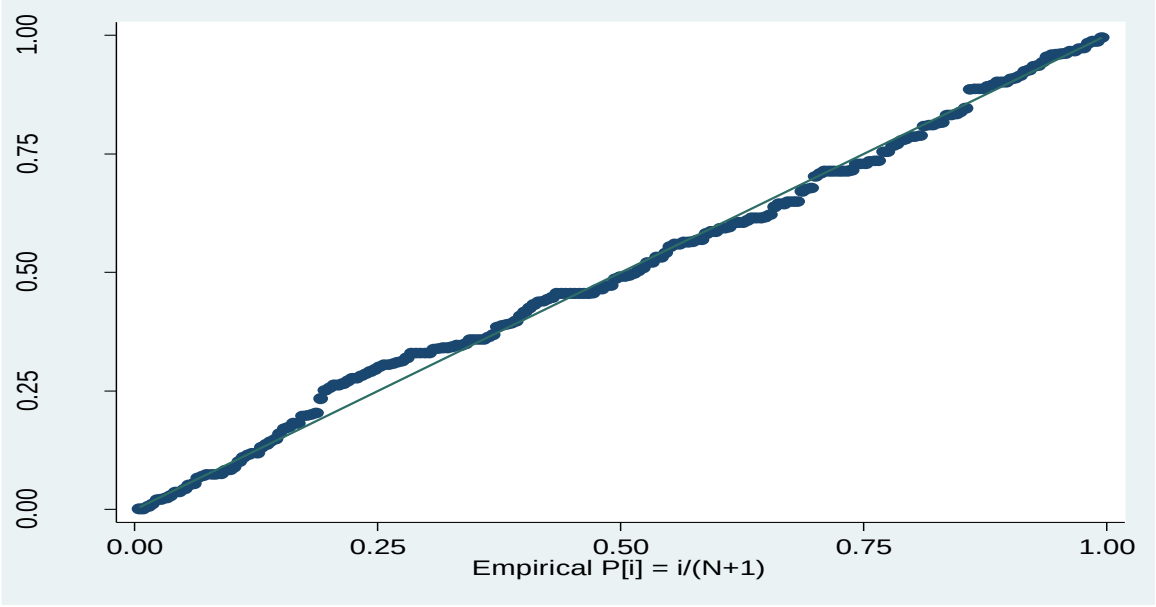


Figure 4.6: P-P Plot of the residual of the entrepreneurial leadership

4.9.4.4.4.2 Homoscedasticity test

The heteroscedasticity problem was detected by employing Breusch-Pagan / Cook-Weisberg test to check the heteroscedasticity (Breusch and Pagan, 1979; Jamshidian and Jalal, 2010; Jalil et al., 2021; Rasool et al.,2021). The test demonstrated that the residuals were homoscedastic (Chi2 (1) =0.450, p = 0.501). Subsequently, it was appropriate and desirable to undertake the hierarchical multiple linear regression models for this study.

4. 9.4.4.4.3 Multicollinearity

Multi-collinearity (Pralle et al., 2018; Elliot et al., 2016) is a correlation statistic that shows that the variables have more than 70% and more correlations, and the existence of such correlations hurts the analysis (Akhil and Kang, 2013). Multi-collinearity can be detected using Variance Inflation Factor (VIF) analysis (Todde et al., 2017), and multi-colinear variables can be removed. In this study, VIF and 1/VIF were 2.27 and 0.45, respectively. The results imply that VIF was less than ten and 1/VIF is more significant than 0.2. This test means that the residual is free from multicollinearity. The results confirm that there are no problems of multicollinearity in the models.

4. 9.4.4.4.4 Multiple linear regression conditions

Tests of normality, multicollinearity and homoscedasticity confirm that the multiple linear regression models can be applied because all conditions were fulfilled. Therefore, the hierarchical multiple linear models for entrepreneurial leadership of smallholder farming in the South African sub-sector are feasible and viable.

4.9.5 Commercialization of smallholder farming

4.9.5.1 Sample size and participants

The sample size and the participants in this study were detailed in previous sections. The sample was adequate for the analysis and selected 67% of South Africa's six provinces. This sample frame was from the farmers supported by government institutions (Kigatiira et al., 2018; Eiselen et al., 2005).

4.9.5.2 Procedures

Similar survey and focus session procedures were employed to investigate this objective. These procedures were explained in the previous section. In addition, the data collection was done by the same study team who used the same procedures as stated in the previous sections (Kigatiiraet al., 2018).

4.9.5.3 Measures

4.9.5.3.1 Entrepreneurial leadership

The indicators such as mentorship, growth, government support, and effective communication were used to measure entrepreneurial leadership (Orser and Elliott, 2021; Stolze et al., 2021). The indicators of entrepreneurial leadership and its construct were measured on the ten-point 1-10 semantic differential scales (Tustin et al., 2010), and the meaning of the scales was explained in the previous section of this study (Kim et al., 2016). The reliability of the terms in the questionnaire was done using the Cronbach Alpha index to determine the internal consistency for the extracted sub-dimensions (see Table 4.12).

4.9.5.3.2 Social capital, competitive advantage, enterprise performance, and commercialization

The social capital was measured using six indicators (i.e., credibility, farming culture, market agencies, Expertise, leadership readiness, and creativity). Both social capital indicators and the construct were measured the same way as the entrepreneurial leadership (i.e., they were measured using ten-point scale semantic differentials). Their meaning was explained in the previous section of this study (see section 4.9.3.3). Similarly, competitive advantage, enterprise performance, and commercialization used the same measurement scale. However, the competitive advantage construct was determined by four indicators (i.e., unique service feature, the price value of the product, customer experience, and notable product attributes or quality (see Figure 4.6).

Table 4.12: Measurement scales and reliabilities

Constructs and Indicators items	Cronbach alpha (α)	Factor loading	KMO	Bartlett's Test of Sphericity	
				Chi-Squared	P-value
Entrepreneurial Leadership	0.801		0.721	1700.755	0.000
Growth	0.824	0.634			
Mentorship	0.691	0.878			
Government Support	0.758	0.778			
Effective Communication	0.710	0.858			
Competitive advantage	0.900		0.828	2761.200	0.000
Unique Service Feature	0.873	0.875			
Price Value	0.862	0.894			
Customer experience	0.877	0.867			
Notable Product Quality	0.874	0.873			
Social Capital	0.938		0.919	5595.758	0.000
Credibility	0.932	0.839			
Farming Culture	0.924	0.890			
Market agencies	0.931	0.849			
Expertise	0.923	0.897			
Leadership readiness	0.923	0.900			
Creativity	0.928	0.871			

4.9.5.4 Statistical analysis

This study used both exploratory factor analysis (Table 4.11) and structural equation modeling (SEM) to model the effect of business performance on the commercialization of the smallholder farming sector in South Africa (see Figure 3.1). The path analysis was used to map the factors' influence and impact along the pathways. SEM-based procedures were preferred due to their advantages over first-generation technologies such as factor analysis, principal components analysis, multiple regression, or discriminant analysis. In addition, it was preferred because of its greater flexibility (Chin 1998). The researcher also likes it because it offers the interplay between theory and practice. Dubey et al. (2021) reported that SEM provides the researcher with the flexibility and agility to model relationships, set the criterion of variables, construct unobservable LVs, and statistically examine a priori substantive/theoretical and measurement assumptions against empirical data (i.e., confirmatory factor analysis). Rigdon (1998) and Ali et al. (2018) contended that SEM is one of the salient research methods in transverse disciplines.

4.9.5.5 Factor structure and model fit summary

Extensive analyses were done on the pathway structure before the country-level analysis. To examine the influence of business performance on the commercialization of the smallholder farming system in South Africa, factor analysis, sample adequacy tests, reliability of the items, and model fit were conducted. All these tests showed that the above was fulfilled. However, the likelihood ratio test (LR) showed that the chi-squared was significant [χ^2 (df = 151) = 12166, 734, $p < 0.000$)], indicating that there was a problem with the model fit (Fell et al., 2016). On the other hand, the RMSE was less than 0.005, indicating that the model fits well. Furthermore, the other measure of the model fit, such as CFI and TLI, were all found to be equal to one, implying that, on average, the model was well-fitted. Consequently, the model was desirable for analytical purposes.

4.9.5.6 Stability Index

The stability index for the non-recursiveness between competitive advantages versus the entrepreneurial Leadership model was 0.001. This relationship was insignificant at a probability value of 5%. This outcome implied that there was no relationship between the two variables (see Table 4.12)

4.10 QUALITATIVE METHODS

Qualitative methods were used in a limited manner. Although it was used in a minimalistic way, its role in the study was critical to confirm some findings from the quantitative methods. Data collection in this method used both focus group sessions and one-on-one interviewers.

4.10.1 Qualitative data analysis

The analysis of the qualitative information was carried out through thematic and pattern analysis. The thematic analysis was primarily used during focus group sessions where the discussion was based on predetermined themes.

4.10.1.1 Thematic analysis

This analysis involves analyzing the raw qualitative data collected to assess the necessary information related to the study's thematic areas (Joffe 2012; Clarke and Braun 2014; Braun and Clarke 2021). According to Thelwall (2021), many researchers use this analysis to analyze projects involving texts from the social information web or issues, opinions, interests, news discussions, or communication styles gathered through qualitative methodologies. This analysis was used to discuss the commercialization of the smallholder farming enterprise and the proposed models developed through quantitative methodologies.

4.10.1.2. Pattern analysis

The other qualitative analysis used to complement the thematic analysis was pattern analysis. This analysis was crucial to determine the trend that involves the development of smallholder farming entrepreneurs to commercialize their enterprises. The analysis of the smallholder farming behaviors and environment where they operate their farming enterprises has enabled the study to develop a clear pattern of the factors that may be critical in commercializing these enterprises.

4.11 RELIABILITY AND VALIDITY

4.11.1 Reliability

The study ensured that any factors that affected the reliability of the study were dealt with. Therefore, before the commencement of the study, the following factors were accounted for:

a) Participant error and bias.

Molloy et al. (2021) reported that the Gaussian distribution could curb participant error. In this study, participant error was prevented by ensuring no collaboration between participants during the interviewing processes. During the interview, leading questions were prohibited. The participants were encouraged to present their real-life experiences.

b) Researcher error and bias

Survey design, significance testing, and random sampling are used to minimize researcher biases (Walters 2021). This study used this quantitative approach and adopted the approach of training the researchers on the ethics of the research to view the researcher's biases as unethical conduct.

c) Internal consistency

The survey instrument was subjected to the test for internal quality check. First, the internal consistency test was performed using the Cronbach alpha test. This test is presented in Table 4.13 below. The results show that all the constructs' Cronbach alpha coefficients were higher than 0.700. This consistency showed that the items in the research instrument well fitted together. The items for entrepreneurial leadership were measured as good, while that of competitive advantage and social capital were measured as excellent.

Table 4.13: Results of the internal consistency of the questionnaire instrument.

Construct	Cronbach Alpha
Entrepreneurial Leadership	0,801
Competitive advantage	0,9
Social capital	0,938

d) The composite reliability

The study also explored the composite reliability test to determine if there are concerns regarding the composite reliability of the indicator variables that measure the measured constructs. Table 4.14 below shows the test results for the composite reliability of the construct.

Table 4.14: The composite reliability for the constructs

Entrepreneurial Leadership (EL)	Standardized loadings	(Standardized loadings)^2	ME (1-A)	Sum (A)	Sum (ME)	Sum(A) + ME	Composite Reliability = Sum(A)/B
Growth	0,634	0,402	0,598				
Mentorship	0,878	0,771	0,229				
Government support	0,778	0,605	0,395				
Effective communication	0,858	0,736	0,264	2,514	1,486	4,000	0,629
Competitive advantage (CA)							
Unique service feature	0,875	0,766	0,234				
Price Value	0,894	0,799	0,201				
Customer experience	0,867	0,752	0,248				
Notable Product Quality	0,873	0,762	0,238	3,079	0,921	4	0,770
Social capital (SC)							
Credibility	0,839	0,704	0,296				
Farming culture	0,89	0,792	0,208				
Market agency	0,849	0,721	0,279				
Expertise	0,897	0,805	0,195				
Leadership readiness	0,9	0,810	0,190				
Creativity	0,871	0,759	0,241	4,590	1,410	4,831	0,950

Notes: Composite reliability was calculated by dividing the sum of the square standard loading by the square of the sum of standard loadings and measurement Error.

4.11.2 Validity

It refers to the accuracy of the inference, interpretations, or actions based on the test scores (Christensen *et al.,* 2015). Cronbach (1990) stated that validity is an inquiry into the soundness of the interpretation proposed for the score from a test. Furthermore, Christensen et al. (2015) reported that validity could be associated with gathering evidence supporting inferences to be made on the scores obtained from the operation during measurement processes. The study ensured that any factors

affecting the study's validity were assessed and accounted for. The following factors were scrutinized, highlighted, and accounted for:

a) Past and recent events.
b) Instrumentation.
c) Testing.
d) Maturation.
e) Mortality.
f) Ambiguity

The study validated its findings based on the following tests of validity:

a) Sample adequacy

The test for the sample adequacy was done using KMO and Barlett's test of sphericity (see Table 4.15 below). The results showed that All changes were recorded during the study and reported accordingly.

Table 4:15. Test of the sample adequacy

Construct	Bartlett's test of sphericity		
	KMO	Chi-squared	p-value
Entrepreneurial Leadership	0,721	1700,755	0.000
Competitive advantage	0,828	2761,2	0.000
Social capital	0,919	5595,758	0.000

b) Construct validity

The construct validity was measured by two validities, as explained below.

1. Convergence validity

Convergent validity refers to how the indicators contribute toward the latent construct (Bollen 1989). This validity uses the average variance extracted (AVE). The AVE should be 0.500 and above to have convergent validity. Table 4.16 shows that all the constructs under consideration have convergence validity.

Table 4.16: The results of the convergence validity of constructs

Construct	Standardized loadings	(Standardized loadings)^2	Sum (Standardized loading)^2	Items	AVE
Entrepreneurial Leadership (EL)					
Growth	0,634	0,402			
Mentorship	0,878	0,771			
Government support	0,778	0,605			
Effective communication	0,858	0,736	2,514	4	0,629
Competitive advantage (CA)					
Unique service feature	0,875	0,766			
Price Value	0,894	0,799			
Customer experience	0,867	0,752			
Notable Product Quality	0,873	0,762	3,079	4	0,770
Social capital (SC)					
Credibility	0,839	0,704			
Farming culture	0,89	0,792			
Market agency	0,849	0,721			
Expertise	0,897	0,805			
Leadership readiness	0,9	0,810			
Creativity	0,871	0,759	4,590	6	0,765

2. Discriminant validity

This validity refers to how indicators are not correlated or correlate (Anderson & Gerbing 1988). It also measures the extent of overlapping factor loadings to assert the individuality of the indicators. The results of the discriminant validity are presented in Table 4.17. The results showed that the discriminant values of all the constructs are above 0,700. This test shows that there are no problems of validity in the constructs.

Table 4.17: The results of the discriminant validity of the constructs

Construct	Standardized loadings	(Standardized loadings)^2	Sum (standardized loading)^2	Items (n)	AVE	DV
Entrepreneurial Leadership (EL)						
Growth	0,634	0,402				
Mentorship	0,878	0,771				
Government support	0,778	0,605				
Effective communication	0,858	0,736	2,514	4	0,629	0,793
Competitive advantage (CA)						
Unique service feature	0,875	0,766				
Price Value	0,894	0,799				
Customer experience	0,867	0,752				
Notable Product Quality	0,873	0,762	3,079	4	0,770	0,877
Social capital (SC)						
Credibility	0,839	0,704				
Farming culture	0,89	0,792				
Market agency	0,849	0,721				
Expertise	0,897	0,805				
Leadership readiness	0,9	0,810				
Creativity	0,871	0,759	4,590	6	0,765	0,875

4.12 ETHICAL CONSIDERATIONS

The study adhered to universally accepted ethical considerations. According to Saunders et al. (2016), ethical considerations could be defined as the standard of behavior that could guide the conduct of researchers regarding the rights of the respondents of the research activities. In addition, social norms were provided to ensure the appropriateness and acceptability of the required conduct during research processes. In the conduct of this study, two guiding philosophical foundations of research ethics (namely deontological and teleological views) were adhered to (Saunders et al., 2016). The deontological ethical considerations helped ensure that the researcher acted within the prescribed rules and regulations when conducting the research activities. At the same time, the teleological views were critical for the researcher to act based on the consequences and lessons learned more than prescribed rules.

On the other hand, the practical implementation of these philosophical views of research ethics in this study created some ethical dilemmas because of their contradictory nature. However, discrete applications of some aspects of both ethical considerations were made. This was done in line with guidance to overcome these dilemmas provided by Saunders et al. (2016). These authors further highlighted institutional procedures to resolve ethical matters about research activities—the list of principles needed to be adhered to avoid harming or inflicting pain on the participants. The UNISA's Research Ethics policies were strictly complied with to seek ethical clearance for the study.

UNISA ethical clearance committee approved (see Annexure 5). The smallholder farmers' authorities and other stakeholders were permitted to conduct this study. Before conducting the face-to-face interviews, all the respondents were informed of their participation. Furthermore, the participants were well-informed about the nature of their participation. The voluntary participation was disclosed. The right to withdraw from participation at any time without fear of any repercussions was also highlighted. The aim and objectives of the study were fully explained to the participants. In addition, the respondents could ask whatever questions they deemed fit on any aspects of the study and related matters. Confidentiality was ensured by using ethical codes to link respondents with the collected data, meaning that respondents' identities were kept

anonymous. Henceforth, permission to use a voice recorder was sought from each respondent before using it during the face-to-face interviews.

4.13 RESEARCH INSTRUMENT

Two research instruments were used. The first research instrument was a questionnaire for quantitative data, which collected the secondary data used in this study (see annexure 1). On the other hand, the second instrument was an open-ended questionnaire used to collect qualitative data from the group focus sessions (see annexure 2).

The BMR UNISA ethical committee approved a closed-ended questionnaire (see Annexure 1). All these research instruments were compiled based on the following principles (Christensen et al., 2015):

i. The items matched the research objectives
ii. The items were appropriate for the respondents.
iii. The questions were simple.
iv. Loaded questions were avoided.
v. Double-barreled questions were avoided.
vi. Double negatives were avoided in the questions.
vii. Closed-ended questions were appropriate and applicable to the study.
viii. Mutual exclusive questions were applicable.
ix. Different types of closed-ended responses were considered.
x. Multiple items to measure complex and abstract constructs were used.
xi. The questionnaire was simplified.
xii. The questionnaire was piloted.

The questionnaire has eight sections- the first deals with the respondents' demographic profile, the second focuses on the demographical information, and the subsequent sections focus on the aspects of research constructs in line with research objectives. As explained in the previous sections, these were measured in terms of semantic differential scaling. This scaling is chiefly associated with the perception of the respondents (DeVellis, 2003). Struwing and Stead (2017) pointed out that this measurement is like the Likert scale but only has opposing adjectives. The scale was

developed at the University of Illinois and aimed to measure words' meanings (Tustin et al., 2010). These authors regard this scale as sufficiently reliable, valid for decision-making, and suitable for prediction in behavioral science. In addition, the scale is praised for its proven statistical applicability.

4.14 SUMMARY & CONCLUSION

This section was designed to ensure that the constructs were measured with a higher degree of accuracy and precision, such that the study findings could be robust, repeatable, and reliable. In addition, the section was further designed to ensure that the data collection was executed smoothly and with a higher degree of precision, relevance, and appropriateness. The research and sampling designs were planned to align with the area of investigation in line with the research aim, objectives, and questions. Furthermore, the analytical framework of the study provided a straightforward analytical procedure where such procedures ensured that the data collected was aligned with study objectives through survey instruments (such as questionnaire). Questionnaire instruments were designed based on sound scientific principles, which guaranteed the research outputs' quality. The study was also subjected to quality assurance processes such as university ethical clearance, peer review, and expert critiques. Given the measures above, the study had a significant probability of revealing the actual realities experienced by the smallholder farming sector within the entrepreneurship context of South Africa.

CHAPTER FIVE

RESULTS OF THE DESCRIPTIVE ANALYSES

5.1 INTRODUCTION

This chapter presents a descriptive analysis of the current study. The analysis covered aspects such as the demographic representation of the participants, their characterization, the importance of or lack of business performance, industry knowledge, human relations skills, and personal motivation. It also presented the cluster analysis and the correlations results. The chapter ended up by providing the lessons learned and the chapter summary.

5.2. DEMOGRAPHIC REPRESENTATION OF THE PARTICIPANTS

The study collected data from 560 (50.22%) female and 555 (49.78%) male participants in six provinces of South Africa (see Table 5.1). However, the participants who participated in the survey were not evenly distributed in those six provinces. More [279 (25.02%)] respondents were found in Eastern Cape Province, followed [213 (19.10%)] by respondents from Western Cape Province, with respondents from Free State Province making the third biggest [183 (16.41%)] respondents. Other provinces contributed less than 15% of respondents to this study. Youth participants were noticeable and constituted 282 (25.26%) of the entire sample (n=1115). Above all, of these participants, 450 (40.36%) participants were economically active.

Regarding the educational achievements of the participants, the respondents were characteristically uneducated, with a higher proportion [483 (43.32%)] of the respondents being drawn from those with grade 12 educational achievements relative to those with higher educational achievements. Unfortunately, the uneducated participants appeared to be the second biggest group [417 (37.40%)] as compared to those with doctoral [21 (1.88%)] and master [32 (2.87%)] qualifications.

Table 5.1: Demographic representation of the respondents in the sample

Variables	Frequency (%)
Gender	
Female	560 (50,22)
Male	555(49,78)
Age	
18 – 35 Years	282 (25,29)
36 – 55 Years	450 (40,36)
56 – 75 Years	358(32,11)
76-95 Years	25 (2,24)
Highest Level of Education	
No education	417(37,40)
Grade 12	483(43,32)
Diploma	59(5,29)
Degree	64 (5,74)
Honors	39 (3,50)
Masters	32(2,87)
Doctorate	21(1,88)
Provinces	
Eastern Cape	279 (25,02)
Free State	183(16,41)
Gauteng	158 (14,17)
Limpopo	150(13,45)
Mpumalanga	132(11,84)
Western Cape	213(19,10)

Source: Survey data, 2020

5.3. CHARACTERIZATION OF SMALLHOLDER ENTREPRENEURS IN SOUTH AFRICA

Following the view that smallholder farming in South Africa lacks the necessary entrepreneurial orientation (Mmbengwa et al., 2013), the study assesses the main features of smallholder entrepreneurship in South Africa. A summary of descriptive analysis that seeks to characterize these entrepreneurs within the context of entrepreneurship is presented in Table 5.2.

The results showed that, on average, Gauteng province has the youngest (M=39.25, SD=14.46) entrepreneurs in this sector, while Mpumalanga (M=52.41, SD=14.04) and Limpopo (M=51.76, SD=14.10) have the oldest entrepreneurs. Regarding business experience in this sector, it was found that, on average, the entrepreneurs in Gauteng (M=5.03, SD=7.42) and Western Cape Province (M=6.80, SD=7.94) had the least business experience, while Mpumalanga (M=14.14, SD=13.01) and Limpopo (M=13.95, SD=10.51) had the highest business experience. The results further showed a slightly similar trend where Gauteng entrepreneurs had lower sales experience (M=2.87, SD=5.93) compared to higher sales experiences in Limpopo (M=11.08, SD=9.76) and Mpumalanga (M=10.42, SD=12.08).

The gender distribution of participants in these enterprises has shown that few (M=46, SD=8.21) females participation was experienced in Limpopo while a high number of women participation (M=145, SD=25.89) was found to be taking place in the Western Cape Province. On the contrary, it was found that, on average, few male participants (M=64, SD=11.53) were found in Mpumalanga Province, while a high number of male participants (M=146, SD=26.31) was found to be in the Eastern Cape Province. In terms of educational background, few entrepreneurs in this sector were found to have engineering and medicine backgrounds, while the majority were found to have agricultural backgrounds. Of those entrepreneurs with agricultural background, the results showed that, on average, few entrepreneurs with such a background were found in Mpumalanga (M=40, SD=5.44), followed by Limpopo (M=91, SD=12.38), while a high number of these entrepreneurs were found in Eastern Cape (M=211, SD=28.71), Western Cape (M=178, SD=24.22) and Gauteng (M=115, SD=15.65).

Table 5.2: Descriptive analysis of respondents' characteristics

Indicator	Unit	Eastern Cape	Free State	Gauteng	Limpopo	Mpumalanga	Western Cape
Respondents' characteristics							
Age	Mean	48.88	50.61	39.25	51.76	52.41	44.05
	SD	(12.24)	(16.77)	(14.46)	(14.10)	(14.04)	(15.30)
Business experience							
	Mean	11.21	10.55	5.03	13.95	14.14	6.80
	SD	(12.88)	(11.67)	(7.42)	(10.51)	(13.01)	(7.94)
Sales experience							
	Mean	8.07	5.68	2.87	11.08	10.42	3.99
	SD	(10.32)	(8.33)	(5.93)	(9.76)	(12.08)	(5.76)
Gender							
Female	Number	133	84	84	46	68	145
	(%)	(23.75)	(15.00)	(15.00)	(8.21)	(12.14)	(25.89)
Male	Number	146	99	74	104	64	68
	(%)	(26.31)	(17.84)	(13.33)	(18.74)	(11.53)	(12.25)
Educational Background							
Agriculture	Number	211	100	115	91	40	178
	(%)	(28.71)	(13.61)	(15.65)	(12.38)	(5.44)	(24.22)
Commerce	Number	20	18	12	13	4	6
	(%)	(27.40)	(24.66)	(16.44)	(17.81)	(5.48)	(8.22)
Engineering	Number	2	7	5	7	2	-
	(%)	(8.70)	(30.43)	(21.47)	(30.43)	(8.70)	-
Humanities	Number	10	5	5	8	6	3
	(%)	(27.03)	(13.51)	(13.51)	(21.62)	(16.22)	(8.11)
Medicine	Number	4	2	-	-	2	-
	(%)	(50.00)	(25.00)	-	-	(25.00)	-
None	Number	17	33	11	23	74	17
	(%)	(9.71)	(9.71)	(6.29)	(13.14)	(42.29)	(9.71)
Science	Number	15	18	10	8	4	9
	(%)	(23.44)	(28.13)	(15.63)	(12.50)	(6.25)	(14.06)

Notes: N= 1115, SD=standard deviation% =Percentages, **Sources:** Survey, 2020

5.4. ANALYSIS OF THE IMPORTANCE OR LACK THEREOF OF BUSINESS PERFORMANCE, INDUSTRY KNOWLEDGE, HUMAN RELATION SKILLS, AND PERSONAL MOTIVATION

The rating of the importance of business performance in the smallholder farming sub-sector was done across the different provinces using the smallholder farmers' opinions and was presented in Figure 5.1 below. The opinions of the respondent farmers across the provinces, and business performance, in general, pointed out that these factors are significantly important in this sector. However, respondents from two out of five provinces [Limpopo (7.68%) and Free-state(7.84%)] have rated business performance as slightly lower in importance relative to other provinces that have rated this factor highly. The opinion of the smallholder farmers regarding the importance of the performance of their enterprises confirms the assertion of various researchers (Nell and Napier, 2005; Mmbengwa *et al.*, 2011; Mwanyika and Koori, 2020; Tarekegne et al., 2021).

Other studies reported a positive association of business performance with the advancement of technology and innovation (Perkovska, 2015; Akpan et al., 2020; De Luca et al., 2021). However, studies have shown that smallholder farmer enterprises in South Africa lack the application and access to advanced technology (Cobbett,1978; Groenewald, 1998; Aliber and Hall, 2012; Gwaka and Dubihlela 2020; Onyango et al., 2021). On the contrary, Perkovska (2015) recorded that innovation is a significant factor in business growth and development, especially in small-medium enterprises. Interestingly, his observation, as cited below, seems to suggest that every big business started as a small business, and henceforth, small businesses constitute the core foundation of any viable business enterprise:

"Growth and development of large companies' brands result from innovations implemented in the phase when these companies have been small in size. A large company has once been a small company. For that reason, it is quite necessary to study the historical development of the companies. Small companies cannot implement basic research but are very suitable for applied research. Furthermore, small companies do not have research and development units, laboratories, or pilot units. They do not possess a lab test of the quality of materials and products. However, in small companies, employees are highly motivated through innovation to solve numerous problems in current operations and ensure market success. The fact that innovations stimulate growth and development of the SMEs has been established in the theoretical literature and confirmed in the empirical studies."

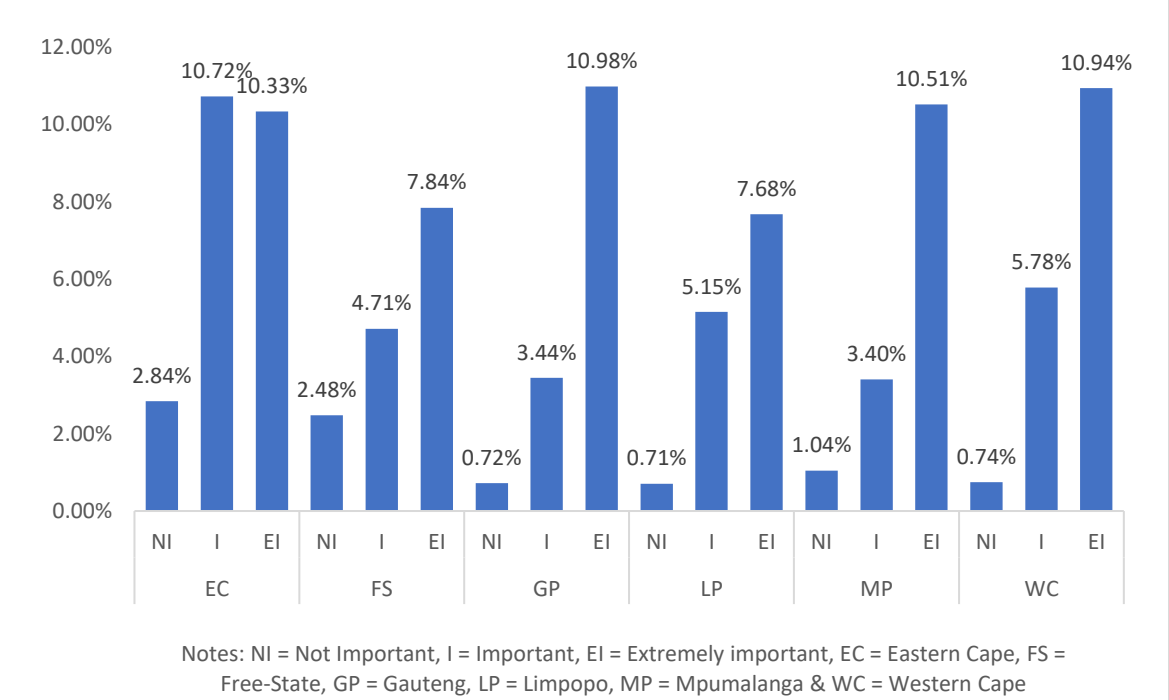


Figure 5.1: The results for the rating of the importance of business performance in the smallholder farming sector

Industry knowledge is essential in ensuring that farmers participate in the agricultural sector. Salam *et al.* (2004), Botlhoko and Oladele (2013), and Silvestri et al. (2020) have confirmed the importance of knowledge by providing the results of the influence of knowledge in the participation of smallholder farmers in forestry projects. The opinion of smallholder farmers regarding the importance of industry knowledge confirms the results of previous studies. Figure 5.2 illustrates how farmers rate the importance of industry knowledge in different provinces in this study.

These results showed that all the respondents in the provinces rated this factor as extremely important with varying proportions. Similarly, two provinces [Free-State (7.98%) and Limpopo (7.49%)] have shown a lower proportion for the rating of the importance of this factor in their farming enterprises. On the contrary, respondents from Eastern Cape (10.78%) and Western Cape (11.39%) rated the importance of this factor highly, followed by Gauteng (10.70%) and Mpumalanga province (10.35%).

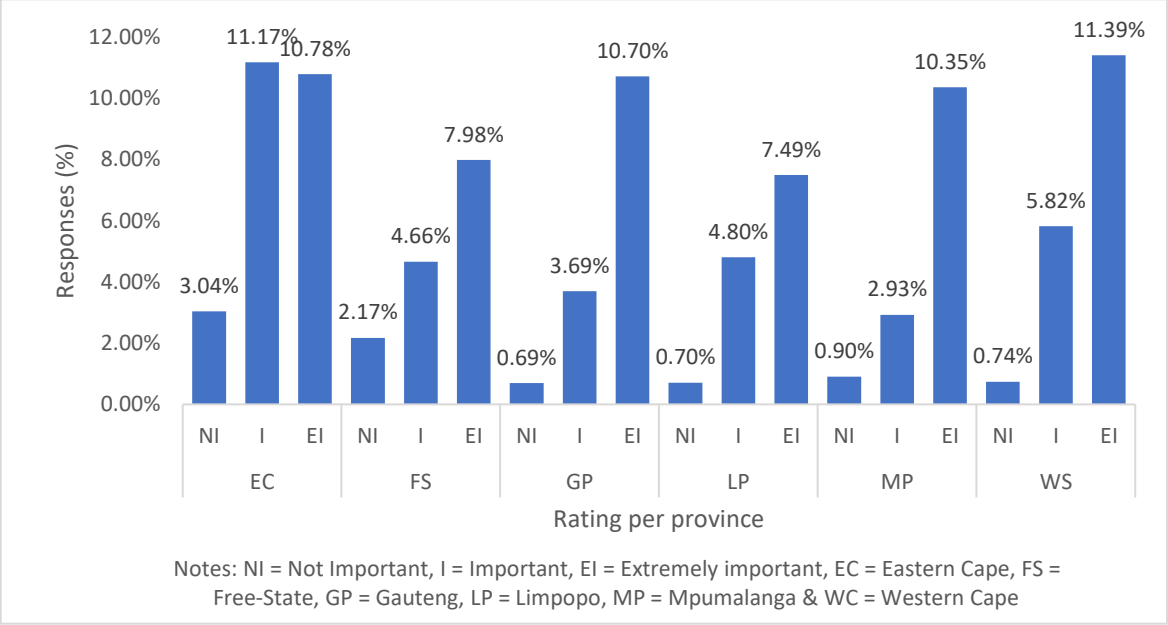


Figure 5.2: The results for the rating of the importance of industry knowledge in the smallholder farming sector

The results for human relationship skills and personal motivation have been shown in Figures 5.3 and 5.4, respectively. According to these results, both factors have shown similar trends with farming performance and industrial knowledge, where Free-State and Limpopo respondents were lagging in appreciation of the importance of these factors.

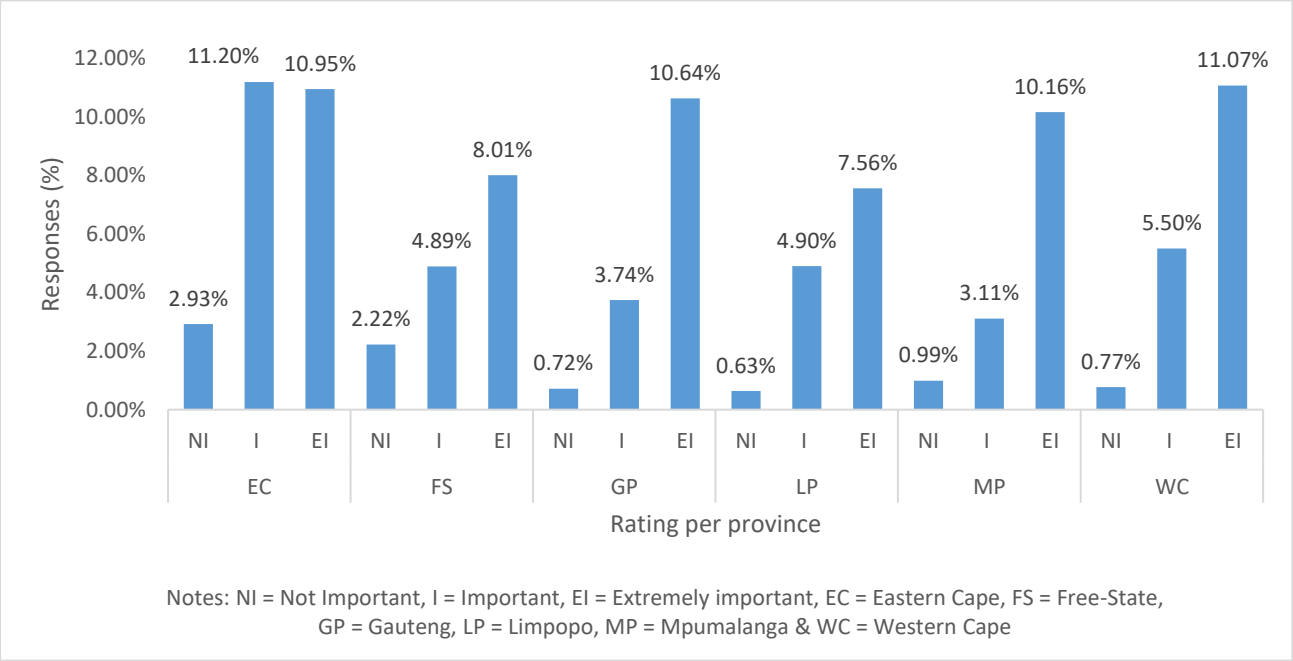


Figure 5.3: The results for the rating of the importance of human relations skills in the smallholder farming sector

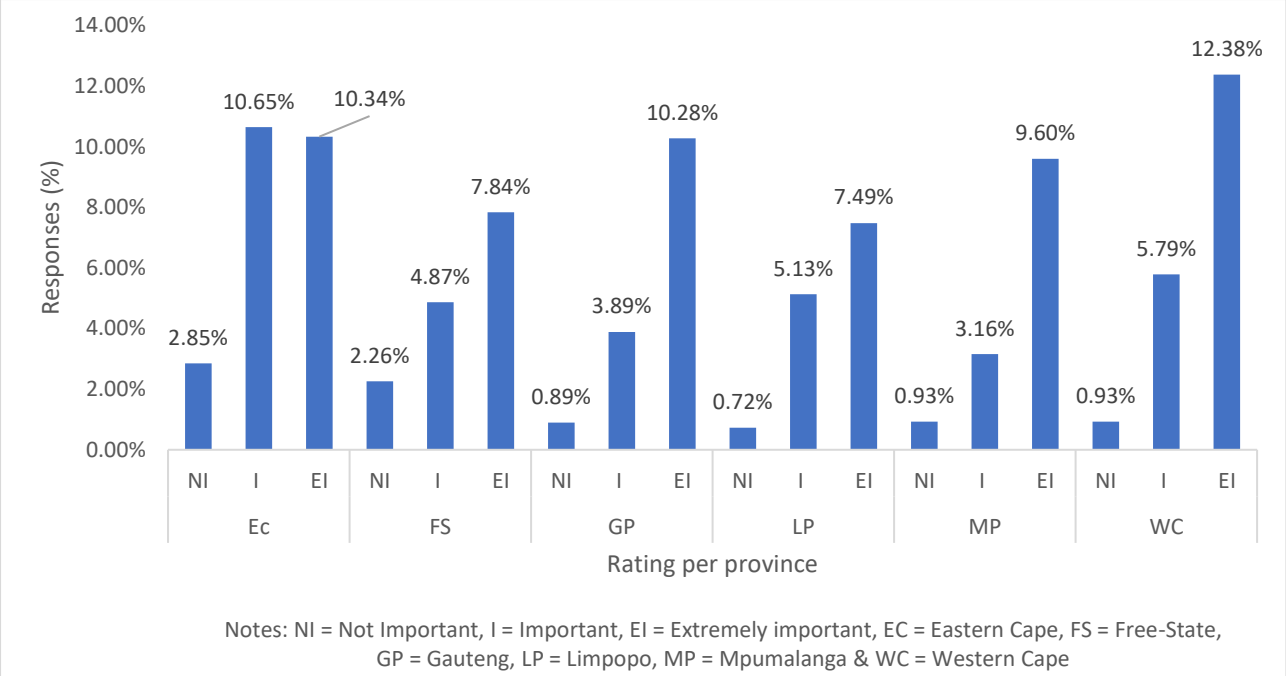


Figure 5.4: The results for the rating of the importance of personal motivation in the smallholder farming sector

5.4. CLUSTER ANALYSIS

The results of the importance or lack thereof of the predictors that could influence social capital in this sector are presented below (see Figure 5.5 and Table 5.3).

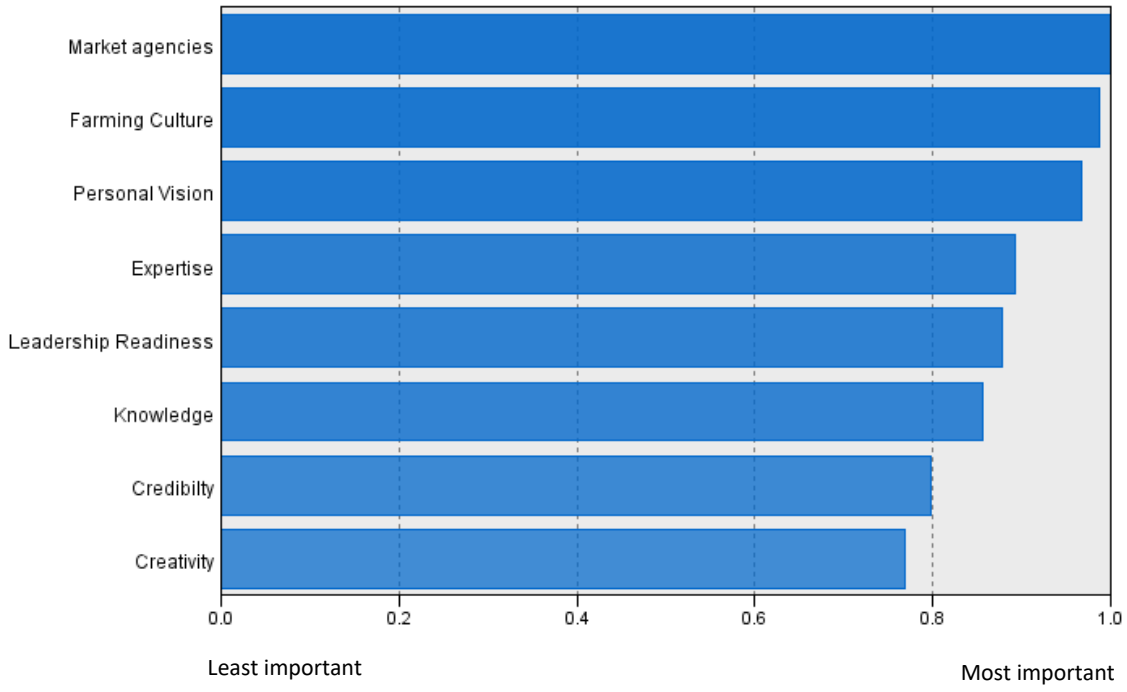


Figure 5.5: Illustration of predictor importance

According to the results, market agencies, farming culture, personal vision, and expertise were critical factors. On the contrary, creativity, credibility, knowledge, and leadership readiness were crucial compared to their counterparts.

Table 5.3: Cluster analysis of the social capital groups in a smallholder farming sector

Cluster	2	1
Label	Easy to network	Dificult to network
Description	Smallholder farmers who have potential to network have these qualities	Smallholder farmers with less potential to network
Size	53.7% (599)	46.3% (516)
Inputs	Creativity 9.23	Creativity 6.15
	Credibilty 8.95	Credibilty 5.91
	Expertise 9.07	Expertise 5.84
	Farming Culture 9.14	Farming Culture 5.74
	Knowledge 9.06	Knowledge 5.82
	Leadership Readiness	Leadership Readiness
	Market agencies 8.89	Market agencies 5.42
	Personal Vision 9.00	Personal Vision 5.64

Notes: Input (Predictor) Importance
1.0 0.8 0.6 0.4 0.2 0.0

5.5. CORRELATION ANALYSIS OF THE FACTORS OF ENTREPRENEURIAL PERFORMANCE OF THE SMALLHOLDER FARMING SECTOR

Table 5.4 below presents the results of the study's descriptive and bivariate correlation analyses. These analyses showed that on average personal motivation (M = 7.93, SD = 2.33) had the highest rating, followed by human relations skills (M = 7.59, SD = 2.30), and farm performance (M = 6.99, SD = 2.43) had the lowest ratings of all variables under considerations. All the variables were positively and highly correlated. The highest correlation ($r = 0.79$, $p < 0.01$) was found between management and human relation skills, while the lowest correlation ($r = 0.57$, $p < 0.01$) was observed between farm performance and personal motivation, implying that increasing farm performance in this sector could result in 57% increase in personal motivation and vice versa. These results confirm the assertion reported by Wickham (2004).

Table 5.4: Correlation analysis of dependent and independent variables

Variables	Mean	SD	1	2	3	4	5
1) Entrepreneurial performance	6.99	2.43	1.00				
2) Industry knowledge	7.14	2.45	0.65	1.00			
3) Management skills	7.35	2.40	0.68	0.76	1.00		
4) Human relations skills	7.59	2.30	0.66	0.71	0.79	1.00	
5) Personal motivation	7.93	2.33	0.57	0.64	0.72	0.80	1.00

Notes: All variables were highly significant at 99% interval**s—sources:** Survey: 2020.

5.6. IMPORTANCE AND THE CORRELATION OF THE ENTREPRENEURIAL LEADERSHIP FACTORS

Table 5.5 below summarizes the descriptive analyses of the importance of entrepreneurial leadership. It also presents the Pearson correlations of the variables under consideration.

Table 5.5: Descriptive statistics, Cronbach's alpha, and inter-correlation for study variables

Variables	Means	SD	1	2	3	4
Entrepreneurial Leadership (1)	7,13	2,303	0,758			
Effective Communication (2)	6,93	2,477	.420**	0,760		
Mentorship of the members (3)	7,00	2,552	.454**	.775**	0,742	
4. Growth (4)	7,01	2,264	.722**	.345**	.389**	0,789

On average, smallholder farmers treated entrepreneurial leadership as the most critical factor in its development (M = 7.13, SD = 2.303), followed by growth (M = 7.01, SD = 2.264). Meanwhile, mentorship (M = 7.00, SD = 2.552) and effective communication (M = 6.93, SD = 2.477) are considered moderate in improving the South African smallholder farming sector.

The research results further disclosed that entrepreneurial leadership is positive and highly significantly correlated with growth factors ($r = 0.722$, $p < 0.000$). Furthermore, effective communication and mentorship were positively and highly correlated ($r = 0.775$, $p < 0.000$). The results further show that growth factors are positively and moderately significantly correlated to effective communications ($r = 0.345$, $p < 0.000$) and mentorship of the members ($r = 389$, $p < 0.000$). The results disclosed that entrepreneurial leadership is positively and significantly correlated with effective communication ($r = 0.420$, $p < 0.000$), mentorship of members ($r = 0.454$, $p < 0.000$), and growth ($r = 0.722$, $p < 0.000$). These results agree with the report from various studies (Huxtable-Thomas and Hannon, 2018, Kuratko, 2018; Dabić et al., 2021).

The positive correlation between growth factors and entrepreneurial leadership was confirmed (Mehmood et al., 2021; Dabic et al., 2021) and made possible using technology transfer and innovations (Kuratko, 2018; Fernandes et al., 2021). Mentorship and practical communication are highly correlated ($r = 0.775$, $p = 0.000$). In addition, Schafer (2010) and Jack (2020) seemed to consider that positive and effective leadership increases the mentorship of small-scale growing enterprises. However, it could be debated that efficient and effective experts or trainers could quickly provide mentorship for smallholder farmers in South Africa, and such mentorship could improve their commercial farming performance.

5.7. LESSONS LEARNT

This chapter has presented various lessons learned through the descriptive results. Notably, the following lessons were recorded and seriously highlighted:

- Women participants dominated the entrepreneurs involved in this study. This implies that women entrepreneurs are highly interested in agricultural entrepreneurship.
- The participating entrepreneurs were characteristically uneducated. This characterization implies that agricultural entrepreneurship attracts people with low education and limited economic opportunities.
- Gauteng province has the youngest agricultural entrepreneurs compared to other provinces, and Limpopo province has the oldest entrepreneurship. This

comparison implies that Gauteng province is successfully wooing young people to participate in agricultural entrepreneurship.

- Gender participation in this entrepreneurship varies in terms of the province.
- Farmers across the provinces of South Africa have shown that business performance is critical.
- Limpopo and Free State provinces are provinces where farmers rated business performance factors highly.
- The study highlighted that market agencies and farming culture are of utmost importance in this entrepreneurship.
- The farmers with high network connections can be highly creative, with expertise, and have sufficient knowledge, farming culture, and personal vision.

5.9. THE SUMMARY OF THE CHAPTER

In summary, this chapter has successfully presented the results of the descriptive analysis of the study. It has also uncovered the strength and weaknesses of smallholder farming enterprises in South Africa. The descriptive results have also revealed that smallholder farmers lack education and, therefore, could find it challenging to use advanced technologies to commercialize their products. As a result of the lack of education, the farmers lack expertise networks, creativity, farming culture, and personal vision. The chapter also highlighted the significant correlation between industry knowledge, management skills, human relations, personal motivation, and business performance. This correlation implies that successful businesses probably rely on their production models' factors' availability. The smallholder farmers' support should include, amongst others, such factors for their businesses to commercialize.

Furthermore, the chapter has also shown that entrepreneurial leadership has positive and significant correlations with effective communication, mentorship, and enterprise growth. Therefore, it can be summed up that an increase in these factors positively impacts the growth and sustainability of these enterprises. Finally, chapter six presents the inferential analysis and the framework for the economic commercialization of smallholder farming in South Africa.

CHAPTER SIX

RESULTS OF THE INFERENTIAL ANALYSIS

6.1. INTRODUCTION

The inferential analysis was presented in this chapter. The presentation of these analyses was based on all five objectives the study planned to address. These objectives are shown below:

I. Factors that explain the entrepreneurial Performance of smallholder farming.
II. Entrepreneurial competitiveness and financial sustainability of the smallholder farming sub-sector.
III. Social capital for the smallholder farming sector.
IV. The effects of entrepreneurial Leadership on smallholder farming enterprises' development were evaluated.
V. Development of commercialization model for the smallholder farming sector.

These objectives were analyzed using the quantitative approaches, and a qualitative approach was used to interpret the results. The chapter, furthermore, presented the lesson learned from the empirical analysis and the conclusive remarks by summarizing the whole chapter.

6.2. OBJECTIVE 1: FACTORS THAT EXPLAIN THE ENTREPRENEURIAL PERFORMANCE OF SMALLHOLDER FARMING

The smallholder enterprise performance was analyzed using a hierarchical multiple linear regression model where entrepreneurial farm performance was assessed based on management skills, industry knowledge, personal motivation, and human relation skills. In addition, preliminary analyses were performed to ensure that this model did not violate the assumption of normality, multi-collinearity, and homoscedasticity. The results of the analysis are presented in Table 6.1.

In the results, model A was found because of the two variables (industry knowledge and management skill), and this model explained 58% of the variance in entrepreneurial farm performance. On the other hand, model B (where an additional variable such as human relation skills) was added to the variables in model A and found to explain 53% of the variance in entrepreneurial farm performance. Furthermore, the total model (where an additional variable s personal motivation) was added and explained the same percentage of variation in entrepreneurial farm performance. These results show that model A explains the highest proportion of the variance in the dependent variable, while the two subsequent models where more variables were included explained the lowest proportion of the variance in the dependent variable.

Table 6.1: Factors affecting smallholder entrepreneurial farming performance

Farm Performance (IV)	Model A	Model B	Model C
Industry knowledge	0.32**	0.26**	0.26**
	(0.03)	(0.03)	(0.03)
Management skills	0.45**	0.21**	0.21**
	(0.03)	(0.04)	(0.04)
Human relation skills		0.26**	0.25**
		(0.04)	(0.04)
Personal motivation			0.01***
			(0.01)
Constant	1.45***	1.03***	1.02***
	(0.17)	(0.18)	(0.19)
Number of observations	1115	1115	1115
F -Statistics	1548.30	413.98	310.24
Prob > F	0.00	0.00	0.00
R-squared	0.58	0.53	0.53
R-squared Change	0.00	0.58	0.56
Root MSE	1.58	1.67	1.68

Notes: Shapiro-Wilk Test = 0.712, p < 0.14, Breusch-Pagan/Cook- Weisberg test = Chi^2 = 0.42, p = 0.52, Mean VIF = 3.12, 1/VIF =0.34. Legends: * p<0.05; ** p<0.10; *** p<0.001

Sources: Survey 2020

However, it was found that in all the models employed; the predictor variables were found to have a significant influence on entrepreneurial farm performance. These results provided the basis to accept the hypothesis that suggests the collective effects of the response factors on the enterprise performance of the emerging commercial smallholder farmer's enterprises in South Africa. It further suggests that various factors have significantly varying influence over and above various predictor variables.

Interestingly, it could be observed that industry knowledge has a significant special effect ($\beta = 0.26$, $p < 0.01$), followed by human relations ($\beta = 0.25$, $p < 0.01$) and management skills ($\beta = 0.21$, $p < 0.01$) with personal motivation having the minor influence ($\beta = 0.01$, $p < 0.10$) on the entrepreneurial performance of this sub-sector. These results seem consistent with the previous findings where knowledge and other entrepreneurial traits were associated with entrepreneurial growth in the smallholder farming sector (Kay, 2006; Rezaei-Moghaddam and Izadi, 2019; Wale and Wale and Chipfupa, 2021). To give a practical reflection on the importance of these factors in the agricultural cooperative set-up, Pryor (1983) provided the experience of various countries in the following citation:

> *"Those cooperatives created by landless or jobless families were somehow able to acquire land or assets but unable to start individual production units either because of lack of complementary factors of production, knowledge, or requisite social overhead capital. In agriculture, following land reforms, examples of cooperatives arising from such circumstances can be cited for Chile, Benin (Dahomey), Peru, Sri Lanka, Tanzania, and many other countries. Hence, the importance of pioneer conditions and lack of adequate social overhead capital in the cooperative farming of the Puritan colonists in Massachusetts.*

The importance of pioneering conditions that relate to (amongst others) the entrepreneurial farm performance factors was identified as the response variables (management skills, industry knowledge, human relation skills, and personal motivation of the entrepreneurs) were assessed. The lack thereof symbolizes a critical shortage of essential business assets and can potentially impose challenges that may impair the success and profitability of the business.

6.3. OBJECTIVE 2: ENTREPRENEURIAL COMPETITIVENESS AND FINANCIAL SUSTAINABILITY OF THE SMALLHOLDER FARMING SUB-SECTOR

Table 6.2 shows the results of the effect of the unique service features of the smallholder farming sector's entrepreneurial competitiveness.

Table 6.2: The Influence of competitive enterprise variables on the smallholder enterprise system

Variables	Cumulative		Simultaneous		Collinearity Statistics	
	Adj. R² - Change	F- Change	β	Beta	Tolerance	VIF
Model 1						
Unique service	0.546	F (1, 1113) = 8, 656***	0,747**	0,739	1,000	1,000
Model 2						
Unique service	0.616	F (2,1112) = 5,114***	0,440***	0,436	0,434	2,305
Price Value			0,402**	0,403	0,434	2,305
Model 3						
Unique service	0.636	F (3, 1111) = 3, 464***	0.360**	0,356	0.380	2,617
Price Value			0,322***	0,322	0,473	2,629
Notable products			0,206***	0,206	0473	2,114
Model 4						
Unique service	0.638	F (4, 1110) = 5,396***	0,354***	0,350	0,378	2,646
Price Value			0,302**	0,302	0,342	2,926
Notable products			0,183***	0,184	0,400	2,499
Customer experience			0,059**	0,057	0,407	2,459

Notes: ** = P < 0.05; *** = p < 0.000

6.3.1 The Influence of the unique service features on the entrepreneurial competitiveness of the smallholder farming system

According to these results, unique service features significantly influenced the entrepreneurial competitiveness of the smallholder farming sector in South Africa (β = 0.747, t = 36.561, p < 0.000). Furthermore, the coefficient of unique service features was positive, implying that it positively affected smallholder entrepreneurial competitiveness. In essence, the results indicate that for every unique service character, 0.747 is the average increase in entrepreneurial competitiveness that smallholder farming could gain.

In addition, it was also found that unique service features significantly impacted this farming entrepreneurship competency (Beta = 0.739, t = 36.561, p < 0.000). This implied that enterprise competitiveness could be increased by 0.739 percent of standard deviation for every standard deviation change in the unique service feature. Given the effect mentioned above and the impact of the unique service features on the enterprise competitiveness of the smallholder farming system, hypothesis 1 was supported, meaning that there was evidence that informed the assumption that unique service features have a positive and significant influence on the entrepreneurial competitiveness of smallholder farming in South Africa.

The results seem to agree that the services' uniqueness has the propensity to ensure the enterprise's strategic positioning, which increases the demand for goods by the customers (Hossain et al., 2019). Shostack (1987) and Akbari et al. (2021) reported that the provision of the product or service is given to manipulate consumer perceptions, and thus, in a highly competitive service business environment, the business is critical to position itself effectively to compete. Similarly, Zeithaml et al. (1985) and Hole et al. (2018) found that the product's unique characteristics can increase the competitiveness of the enterprises. Bharadwaj et al. (1993) have suggested that innovating a unique service feature is a rare skill and asset for the enterprise's competitive advantage.

These authors, furthermore, believed that competitive advantages could result in the implementation of a value-creating strategy that can neutralize the potency of their current competitors. The study shows that smallholder farmers recognized the importance and influence of the unique service features in enhancing their competitiveness. However, these farmers do not utilize this factor to maximize their competitive advantage. These farmers also appeared to use informal marketing channels instead of formal ones.

Therefore, these marketing channels' unique service feature seems vast due to different corporative orientations. The informal marketing channels have undocumented service features, whereas the formal one has a highly standardized service feature that smallholder farming has been struggling to fulfil, resulting in their exclusion from traditional retail stores. In this context, traditional marketing in South Africa makes the smallholder farming sector grossly uncompetitive, whereas the same cannot be said in the informal market environment.

6.3.2 The effect of price value of the product on the enterprise competitive of smallholder farming system

The results of the effect price value of the product on the enterprises' competition of the smallholder farming system were presented in Table 6.2. These results showed that the price value of the smallholder products significantly affects the entrepreneurial competitiveness of the smallholder farming system ($\beta = 0.402$, $t = 14{,}284$, $p < 0.000$) when adjusting for the effect of the unique service feature of their products. Therefore, the results imply that a unit increase in the price value of the product could probably increase the entrepreneurial competitiveness of smallholder farmers in South Africa by an average of 0.402.

In addition, the results showed evidence (Beta = 0.436, t = 14,284, p < 0.000) that could attest to the significant impact of the price value of the product on the smallholder farming entrepreneurial competitiveness. These results seem to confirm the assertion by Anzinger et al. (2017), who insinuated that higher quality products of any kind have a higher chance to improve revenue and income generation and, thus, increase the entrepreneurial competitiveness of any enterprise in the corporate environment and smallholder farming sector is no exception.

Given the results above, the study has, in a way, supported hypothesis 2, which stated that the price value of products is positively significant in influencing the entrepreneurial competitiveness of the farming system in South Africa. Clearly, the effect of the price value of the products has been explained. However, the price formation has not been investigated along with the price value of the product. In the South African smallholder farming environment, price formation has been highly ignored, yet it is a crucial component of the price value of the product.

In some instances, price formation may be associated with the sustainability and profitability of enterprises in any sector, including smallholder farming. Given the marginalization of smallholder farming through apartheid state interventions (Mmbengwa et al., 2011; Mkodzongi and Rusenga, 2021), it remained clear that price formation is equally critical for this sector. Likewise, Reinecke (2010) found that price formation processes are critical for the producers, and producers can control price formation using commodity association, the social, political, ecological, and relations in the value chain.

Price formation could also inform the extent to which entrepreneurs could speculate on the price value of their products. Fischer's classical theory of value and distribution highlighted that when prices surpass their standard level (at which costs plus interest are covered), it implies that sellers have access to good price speculators (Fisher 1906; Belongia and Ireland 2021) ". Hence, the price value of the products could be predicted using speculative ability when considering price formation.

The price value of products could be affected by various factors and to some extent, by the price formulators. Looking at the institutional arrangements in which smallholder farmers in South Africa find themselves, price speculation has been their weakest point. It seems too doubtful if there is any infrastructure for such services for this farming sector. The dominant feature in this sector seems to be the notion of price taking, where smallholder farming is compelled to take lower prices in the traditional markets for the sake of the cash flow into their businesses. Henceforth, their viability has been obstructed by low-price offers for their products. This is mainly because these farmers do not own and control the formal value chain.

6.3.3 The effect of notable product attributes on the enterprise competitiveness of smallholder farming system

The effect of the notable product qualities on entrepreneurial competitiveness was investigated (see Table 6.2 above). According to the results, the unique products feature positively and significantly affect the entrepreneurial competitiveness (β = 0.206, t = 7,848, p < 0.000) of this sector when adjusting the unique service feature and the price value of the products. Similarly, the study found that unique product attributes positively and significantly impact entrepreneurial competitiveness (Beta = 0.206, t = 7,848, p < 0.000) of smallholder entrepreneurial competitiveness.

The results indicate that there could be a cumulative effect of an average of 0.206 on the effect and impact on entrepreneurial competitiveness when increasing one unit of notable product qualities. Therefore, given the results mentioned above, hypothesis 3 (which stated that outstanding product quality should be positive and significant in influencing the enterprise competitiveness of the smallholder farming system in South Africa) was supported.

These findings seem to agree with Dana and Fong (2011), who highlighted a positive relationship between market structure and product quality. This finding is an integral part of the theory of industrial organization and forms the core of market power and product durability. According to Matsa (2011) and Kathuria (2019), quality significantly affects demand and consumer welfare. Henceforth, it was reported that 66% of businesses had successfully positioned themselves based on the quality of their products or services, compared with only 11% that competed based on price.

Together with previous findings, these results suggest that the notable product attributes are more likely to position the smallholder farming system in South Africa (Bradford et al., 2008). Given this study, it appears that exceptional product quality was the third-largest factor that could induce smallholder farming entrepreneurial competitiveness.

6.3.4 The effect of customer experience on the entrepreneurial competitiveness of the smallholder farming sector

Consumers are regarded as critical stakeholders in the supply and value chains of the corporate environment (Sinkovics et al., 2021), where they are known to buy food, drinks, and services from the producers (Schmitt et al., 2015). These authors believed that consumers could shift their consumption from material goods to experiential pursuits. Thus, consumers seem to experience a variety of social inclusions and exclusion during their interpersonal interactions (such as being more friendly or aggressive) with service providers (Maner et al., 2007; Twenge et al., 2001).

Therefore, the customer experiences seem to determine whether they should proceed with the business transaction or not. Their business experience also formats a customer's mindset. The consumer and organizational behavior lead to a mindset framework and hurt the consumers. However, it presents an exciting new opportunity to explore as it is one of the powerful drivers of customer experience (Mathur et al., 2016). Henceforth, this study has investigated the effect of the customer experience on the entrepreneurial competitiveness of the smallholder farming sector.

The results of the investigation above are presented in Table 6.2 above. According to these results, the customer experience was found to have a positive and significant effect ($\beta = 0.059$, $t = 2{,}017$, $p < 0.044$) and impact (Beta = 0.057, $t = 2{,}017$, $p < 0.044$) on the enterprise competitiveness of the smallholder farming system when unique service feature, the price value of the products and notable product attributes were held constant. Given these results, hypothesis 4 (the customer experience is a positive and significant influencing factor in the entrepreneurial competitiveness of smallholder farming in South Africa) was supported.

This study agrees with regulatory focus and self-construal theory, which proposes that customers appreciate pleasure and avoid pain (Mathur et al., 2016). Wang et al. (2016) associate consumer experience with dialecticism in their responses to product information processing. In this study, the positive customer experience significantly influenced the entrepreneurial competitiveness of smallholder farming, implying that positive customer care could turn smallholder farming into farming that their customers could highly favor. In other words, if the smallholder farmers adopt positive customer care, it may ensure that the rural dwellers in South Africa (as smallholder farming clients) rely on their products for their food parcels.

6.4. OBJECTIVE 3: SOCIAL CAPITAL FOR THE SMALLHOLDER FARMING SECTOR

Table 6.3 below presents the results of the social capital factors. These results present standardized and unstandardized coefficients of variation of the social capital of smallholder farming in South Africa.

6.4.1 Influence of credibility on social capital for the smallholder farming sector

The results of the influence of the credibility on social capital for the smallholder farming sector in South Africa are presented in Table 6.3. These results predicted that credibility alone was highly significant in influencing the social capital of this farming sector ($\beta = 0.745$, $p < 0.000$) and was found to be consistent with social capital theory, a theory that hinges on trustworthiness and honesty (Taruvinga *et al.* 2017). In their investigation of linking agricultural enterprises with thriving social capital, Taruvinga et al. (2017) found that trustworthiness accounted for more than 7.614 times the chances of influencing the success of agricultural enterprises and could regard as moderately essential to foster social capital structure in this sub-sector (see Figure 6.1).

Table 6.3: Multiple regression analysis for social capital factors of the smallholder farming sector

Variables	Cumulative		Simultaneous		Collinearity Statistics	
	Adj. R^2 - Change	F- Change	β	Beta	Tolerance	VIF
Model 1						
Credibility	0.492	F (1, 1113) = 1080.084***	0,745***	0,702	1,000	1,000
Model 2						
Credibility	0.548	F (2,1112) = 677,410***	0,504***	0,475	0,525	1,905
Leadership readiness			0,344***	0,329	0,434	1,905
Model 3						
Credibility	0.561	F (3, 1111) = 474, 703***	0.454***	0,428	0.480	2,082
Leadership readiness			0,214***	0,204	0,318	3,144
Expertise			0,204***	0,196	0,327	3,062
Model 4						
Credibility	0.566	F (4, 1110) = 364,177***	0,419***	0,394	0,439	2,278
Leadership readiness			0,184***	0,175	0,302	3,285
Expertise			0,165***	0,159	0,303	3,499
Market agencies			0,118**	0,118	0,419	2,388
Model 5						
Credibility	0.570	F (5, 1109) = 296,326***	0,397***	0,374	0,422	2,369
Leadership readiness			0,129***	0,124	0,256	3,901
Expertise			0,133***	0,128	0.284	3,515
Market agencies			0,114**	0,113	0,418	2,392
Credibility			0,122**	0,118	0,316	3,163
Model 6						
Credibility	0.571	F(6, 1108) = 248,530	0,383***	0,361	0,404	2,475
Leadership readiness			0,120***	0,115	0,254	3,941
Expertise			0,115**	0,111	0,272	3,683
Market agencies			0,087**	0,087	0,358	2,790
Creativity			0.111**	0,108	0,311	3,217
Farming Culture			0.081**	0,079	0,286	3,493

Notes: ** = p < 0.050; *** = p < 0.000. All explanatory variables were found to be highly significant at p = 0.000.

In addition, credibility was seen to have less significant Influence (β = 0,454, p < 0.000) when adjusted with leadership readiness in model 2. The results showed reduced significance when more predictor variables were added to the models. For instance, credibility was seen to have 0.383 when a full model was estimated. These results complement the report by_Lee (2011), who reported that the triad of honesty, competence, and inspiration marks the essence of credibility. Grabo and van Vugt (2016) further reported that charisma was a function of credibility and could be accumulated using "credibility-enhancing displays such as prestige.

Given that social capital in a South African agricultural environment is meant to create access to support programs and establish a stable community structure that can reduce the vulnerability of the marginalized smallholder farming participants. Reducing social exclusion and fostering social cohesion is necessary to form credible social capital formation. The inability of smallholder farming enterprises to commercialize their production appears to stem from the lack of credibility to attract credit, loans, and investments. Daunfeldt et al. (2013) found that firm growth in the Swedish retail and wholesale industries was driven by credibility and social capital institutions.

6.4.2. Influence of leadership readiness on social capital for the smallholder farming sector

Rajbhandari *et al*. (2014) and Rudolph et al. (2021) associated leadership readiness with situational leadership theory. Situational leadership refers to a leader who remains ready to face complex challenges in the organizational environment. In other words, a ready leader is flexible and mobile in addressing their organization's immediate and complex issues. Mobility and flexibility could enable leaders to comprehend the business situation and its variations (Rajibhandari et al., 2014), thus defining leadership readiness.

According to these authors, understanding followership is crucial in the organizational environment, especially in planning an educational framework where many actors could play an essential role in Leadership. Various leadership theorists have asserted that anyone can serve as a leader if he or she can mobilize others to enact lasting change in a particular constituency (Klempin and Karp 2018).

The study determined the Influence of leadership readiness on the social capital for the smallholder farming system in South Africa. The results showed that leadership readiness was a significant factor in this sector when controlling the Influence of credibility ($\beta = 0{,}214$, $p < 0.000$). Similarly, the reduced significant Influence of leadership readiness was observed as more predictor variables were factored in the subsequent models. This implies that leadership readiness is a critical aspect that could influence social capital formation for the smallholder farming sector in a South African agricultural environment.

6.4.3. Influence of expertise on social capital for the smallholder farming sector

The Influence of expertise on building a network amongst entrepreneurs has received significant attention recently. As a result, Dubey et al. (2018) reported that allowing entrepreneurs to attend seminars and conferences has the highest critical factor (0.736) in ensuring that entrepreneurs access business resources. Suseno and Pinnington (2018) further revealed that there had been a significant relationship between human and social capital in the form of knowledge acquisition. Furthermore, Shahzad et al. (2021) reported that social capital facilitates professionals that can obtain knowledge from clients and improves the overall amount of knowledge acquired, while human capital ensures the sustainability and success of the enterprises.

None of the studies to date has yet to uncover the Influence of expertise on the social capital for the smallholder farming sector. Within this context, the current study examined the influence of expertise on the social capital for the smallholder farming sector in South Africa. The current study results revealed a highly significant influence of expertise ($\beta = 0{,}204$, $p < 0.001$) on the social capital of smallholder farming on adjusting for credibility and leadership readiness.

Similarly, there appears to be a significantly reduced influence of expertise on this sector's social capital when more predictor variables were factored in the subsequent models. The positive coefficient of variations in the relationship between social capital and the availability of expertise confirms that human and social capital positively influence smallholder farming systems (Suseno and Pinnington, 2018).

6.4.4. Influence of market agencies on social capital for the smallholder farming sector

Marks-Bielska and Zielińska (2018) reported that agency theory determined the relations between entities, and such relation was always presented when one person's situation depended on another person's action. However, the individual who undertakes such activities is the agent, while the other party who depends on the agent's activities is called the principal (Pratt and Zeckhauser, 1985). The agency relationship between the abovementioned parties or organizations (Ross 1973) is one of the most extensively codified and oldest modes of social interplay.

Karl Marx's conceptualization of capital as part of the surplus value caught by the bourgeoisie or capitalists in the circulations of commodities between the production and consumption processes appears correct (Lin, 2017). The market agency theory portrays an agent who usually wants to maximize his/her benefit by increasing his/her personal wealth and job security (Darayseh and Chazi, 2018).

The Influence of the market agencies on the social capital for the smallholder farming system in South Africa is under-researched. This gap resulted in the lack of evidence that attests to the existence of such Influence. The current study sought to establish the existence of such Influence by examining the Influence of the market agencies while controlling for other predictor variables such as credibility, leadership readiness, and expertise. The study revealed that significant evidence exists, which indicates a positive and significant influence ($\beta = 0{,}114$, $p < 0.000$) between market agencies and the social capital formation of the smallholder farming enterprises of South Africa. However, these market agencies rarely exist in the current smallholder farming sector, and thus, their social capitalism is highly impaired.

6.4.5 Influence of creativity on social capital for the smallholder farming sector

Creativity and innovation are economic and social development (Baggio and Moretti 2018). Creativity and innovation are essential to ensure success, growth, material and spiritual life improvement, the well-being of individuals, and happiness (Anderson *et al*., 2014 Piergiovanni *et al*., 2012). Moreover, they are increasingly seen as critical to designing the elements that can differentiate a successful product and reproduce a series of overcrowded products (Richards, 2011).

In addition, creativity reinforces collective identity, induces communion, helps communicate the transformative vision, increases transformative energy, and expands the movements' tactical repertoires (Soule, 1997; Ehrenreich, 2007; Jasper, 2010; Shepard, 2012, Weijo *et al*., 2018). Finally, using explorative and exploitative learning to catch market opportunities is significant in enhancing the novel ventures' growth (Cegarra-Navarro *et al*., 2011; Tallott and Hilliard, 2016, Liu, 2018).

The lack of creativity and innovation in the smallholder farming sector could be associated with its struggle to grow and the assumption of its commercial status (Mmbengwa et al., 2013). Hence, the current investigation regarding the possible Influence of creativity on the social capital for the smallholder farming sector in the South African agricultural environment. The study revealed that creativity play a significant influence ($\beta = 0.122$, $p < 0.001$) in the success of the social capital for these farmers when controlling for credibility, leadership readiness, expertise, and market agency.

6.4.6. Influence of farming culture on social capital for the smallholder farming sector

Hofstede (1980) and Hamamura (2018) defined culture as a collective programming of the mind that distinguishes the affiliates of the tribes from one another. It is a term that distinguishes how people behave around each other. According to this author, culture can be described as how work is done in different organizations. Culture consists of paternalistic ways of feeling, reacting, acquiring, and thinking and is transmitted mainly by symbols. However, it comprises the different achievements of human groups, including their embodied artifacts which are the essential core of culture consisting of traditional (i.e., historically derived and selected) ideas and particularly their devoted values (Kluckhohn 1951).

Social systems (of which cultural practices are embodied) can exist because human behavior is not modeled and is, to some extent, predictable (Hofstede, 1980). As much as culture is societal norms and standards, it is also commonly found in various organizations, corporations, and sectors defined in many ways (Hofstede, 1980). For example, Daunfeldt *et al*. (2013) found that firm growth in the Swedish retail and wholesale industries has been influenced by organizational culture. On the other hand, smallholder farming in South Africa has been associated with collective farming for livelihood but with no distinct commercial farming culture. The inadequacy above makes it difficult to assess whether farming culture could influence the establishment of the social capital of such a farming community. Hence, the current investigation regarding the Influence of farming culture on the social capital in these farming communities.

The study revealed strong evidence ($\beta = 0.081$, $p < 0.031$) of the Influence of farming culture on the social capital in these farming communities when credibility, leadership readiness, expertise, market agency, and creativity were held constant. This implies that an increase in one unit leads to declining farming and cultural activities. This impact could result in a positive increase in the social capital resources in smallholder farming enterprises. These findings collaborated with other previous research findings (Daunfeldt *et al*., 2013)

6.5. OBJECTIVE 4: FACTORS AFFECTING THE ENTREPRENEURIAL LEADERSHIP OF THE SMALLHOLDER FARMING SYSTEM

6.5.1. Impact of growth factors on the smallholder enterprises

The effect of the growth factors on the smallholder entrepreneurial leadership was determined using four models in a hierarchical multiple linear regression (Table 6.4 below). These results discovered that growth factors had the most crucial impact (Beta = 0,722, F (1, 1111) = 1212, 249, $p < 0.000$) on the smallholder entrepreneurial leadership when it was alone in the model. However, this factor declined when more variables were included in the model in different hierarchical multiple regression equations. For instance, it declined to 0.607 in the fourth model, where three more variables were included (i.e., mentorship, government support, and effective communication). Compared to other variables in these three models, the growth factors have the greatest positive significant influence on the factors that affect the entrepreneurial Leadership of this system.

The results showed that the null hypothesis of no impact on the growth factors for the entrepreneurial Leadership of the smallholder farming enterprises was not supported at $p < 0.000$ in all four models. The results further showed that growth factors positively and significantly impact entrepreneurial Leadership. This implies that increasing growth factors in smallholder farming enterprises lead to an essential improvement in the entrepreneurship of this sector. These findings agreed with the Penrosean growth theory and Gibrat's Law in that growth factors of the enterprises (company size, easily quantified variables, (for instance, growth in employees or sales) and business expansion) require entrepreneurial leadership acumen (Shieraw et al., 2011; Coad and Guenther 2013; Prasetyo and Dzaki 2020; Abdalla et al., 2021).

Model 1 showed that it is significant to predict entrepreneurial leadership (F (F (1, 1111) = 1212, 249, p < 0.000, R^2 = 0.521). The change from model 1 to 4 also significantly predicted the growth factor (F (4, 1108 = 370, 764, p < 0.000; R^2 = 0.571). This implies that subsequent models improved the prediction of entrepreneurial Leadership when growth factors were included with three other predictors in the model.

Table 6.4: the effect of the entrepreneurial leadership factors in the smallholder farming sector

Variables	Cumulative		Simultaneous		Collinearity Statistics	
	R^2 - Change	**F- Change**	**β**	**Beta**	**Tolerance**	**VIF**
Model 1						
Growth	0.521	F (1, 1111) = 1212,249**	0,734***	0,722	1,000	1,000
Model 2						
Growth	0.557	F (2,1110) = 699,645***	0,653**	0,642	0,849	1,178
Mentorship			0,185***	0,206	0,849	1,178
Model 3						
Growth	0.569	F (3, 1109) = 491,126**	0.618**	0,608	0.789	1,268
Mentorship			0,129***	0,144	0,678	1,475
Government support			0,130***	0,140	0, 661	1,513
Model 4						
Growth	0.571	F (4, 1108) = 370,764***	0,617***	0,607	0,788	1,269
Mentorship			0,086***	0,096	0,366	2,733
Government support			0,121**	0,131	0,641	1,560
Effective communication			0,064***	0,069	0,385	2,596

Notes: ** = p < 0.050; *** = p < 0.000. All explanatory variables were found to be highly significant at p = 0.000.

6.5.2. Mentorship of membership entities

Table 6.4 presents the results of the influence of mentorship regarding the entrepreneurial Leadership of the smallholder farming system. The results showed that mentorship significantly predicted entrepreneurial leadership (β = 0.185, F (2, 1110) = 699,645, p < 0.000) when controlling the effects of the growth factors. In model 3, mentorship was found to have 0.056 significant reduced impacts on entrepreneurial leadership when controlling for growth factors and government support (β = 0.129, F (3, 1109) = 491,126, p < 0.000). In model 4, the results further showed that mentorship has a 0.099 reduction in its effect on entrepreneurial leadership (β = 0.086, F (4, 1108) = 370,764, p < 0.000). In all the models, this predictor was positively correlated with entrepreneurial Leadership. These results indicate that a unit growth in mentorship leads to a corresponding increase in entrepreneurial Leadership of the smallholder farming system.

Moreover, adjusted R^2 depicted models 2, 3, and 4 explain 55.7%, 56.9%, and 57.1%, respectively. Watson (2009) and Njoku and Nwachukwu (2018) concur with the findings that mentorship has a crucial influence on entrepreneurial Leadership. These authors further reported that mentorship nurtures and supports leaders by offering them development, professional skills, and moral support to ensure business sustainability.

As a result of the significant difference that mentorship has to entrepreneurial Leadership, the null hypothesis that mentorship does not affect this type of Leadership was not supported. Instead, the alternative hypothesis was supported. These findings are in agreement with the economic theories. Njoku and Nwachukwu (2018) reported that mentorship employs human capital resources in the form of experts to provide skills development. Mentorship concentrates on strengthening, improvement, and practicalizing. The experts who provide mentorship impart knowledge, skills, values, and competencies to the mentee for professional growth (Sullivan 2000; Eby 2010)

6.5.3. Government support

Table 6.4 presents the results of the impact of government support on smallholder entrepreneurial leadership. These results showed that government support has a significant positive effect (β = 0,130, F (3, 1109) = 699,645, p < 0.000) on the entrepreneurial Leadership of the smallholder peasants when added to the model of growth and mentorship. In model 4, the results also revealed that government support was also having a significant impact on this type of leadership (β = 0,121, F (4, 1109) = 370,764, p < 0.000).

Kim and Kim (2015), Murschetz (2020), and Mazzucato et al. (2020) reported that market failure theory justifies the use of government support systems to stimulate entrepreneurship. Since 1994 the South African government, a large amount of budget was spent on research projects which seek to improve the commercialization of smallholder farmers through entrepreneurship and the revitalization of smallholder farming schemes (Denison and Manona, 2007; Jordaan et al., 2014; Phakhathi et al., 2021).

These results confirm that government support could play a vital role in fostering smallholder entrepreneurship (Mmbengwa et al., 2011; Jordaan et al., 2014). Similarly, previous studies found a positive relationship between innovation activities and government support (Petkovska, 2015; Arif and Hasan, 2021; Xu et al., 2021). Maiti (2013) and Kaya (2018) further reported that more liberalized policies supporting enterprises significantly reduced market imperfections.

6.5.4 Effective communication

The impact of effective communication on entrepreneurial leadership is presented in Table 6.4 under model 4. The results showed that effective communication has a significant influence on entrepreneurial leadership when controlling for growth, mentorship, and government support ($\beta = 0{,}064$, $F(4, 1108) = 370, 764$, $p < 0.000$). These results reject the null hypothesis that effective communication has no impact on smallholder farming entrepreneurial leadership. However, this implies that effective communication is a critical factor of entrepreneurial Leadership in this system. The results align with the resource-based theory (Webb et al., 2013; Venkatesh et al., 2017; Chand Wu et al., 2018; Schwab and Zhang, 2018; and Tarei, 2021). This theory postulates that microenterprises can see growth with adequate communication resources.

6.6. OBJECTIVE 5: DEVELOPMENT OF COMMERCIALIZATION MODEL FOR THE SMALLHOLDER FARMING SECTOR

The commercialization of the smallholder farming sector was traced from various constructs such as entrepreneurial Leadership, enterprise development, competitive advantages, enterprise performance, and social capital. The framework for commercialization was developed and estimated. In the framework, the correlation and the effect of the constructs on each other were estimated (see Figure 6.1).

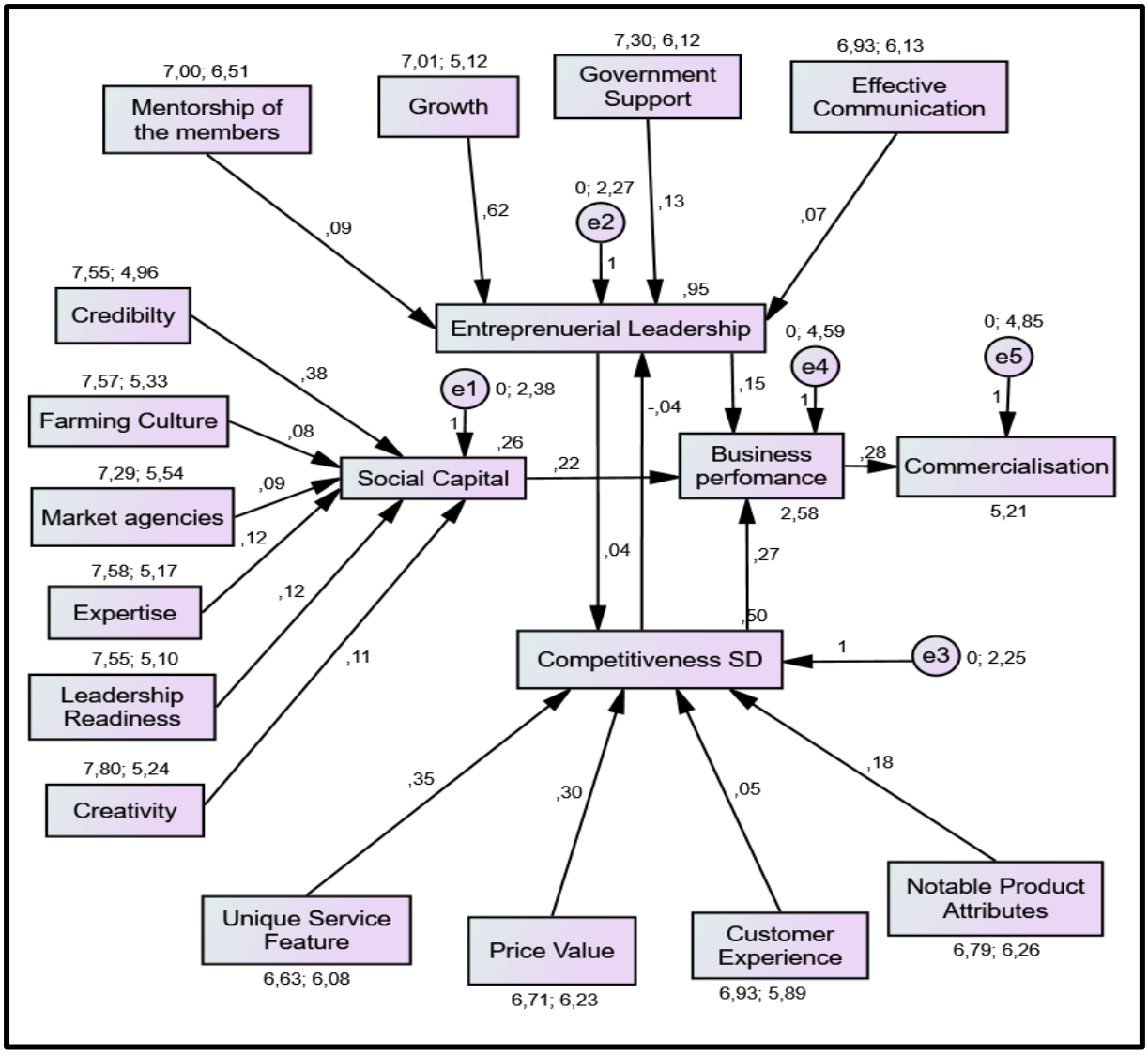


Figure 6.1: An unstandardized parameter estimate for theoretical entrepreneurship framework for the economic commercialization of smallholder farming

Source: survey 2020.

6.6.1 Effect of entrepreneurial Leadership and enterprise performance

Table 6.5 illustrates the results of the indicators effect of entrepreneurial Leadership, while Table 6.6 illustrates the mediating effects of entrepreneurial Performance and commercialization. The outcome of the study hypothesis is shown in Table 6.7. According to the results in Table 6.5, all the entrepreneurial leadership indicators had a positive and statistically significant relationship with entrepreneurial Leadership. In addition, table 6.6 has shown that entrepreneurial Leadership has a statistically

significant effect on entrepreneurial Performance (β= 0.154, p < 0.000). The regression coefficient was positive, implying that if entrepreneurial Leadership increases with one unit, smallholder farming business is more likely to increase their Performance by 0.154 when other variables are kept constant. Therefore, the hypothesis that entrepreneurial Leadership significantly influences smallholder farming enterprises in the South African environment was supported (see Table 6.7).

The results of this study appeared to agree with both management and leadership theories (Fayol, 1930; Van Wart, M., 2013). All these theories confirmed the crucial role that Leadership could play in increasing enterprise performance. In addition, Teece (2014) and Mrbure et al. (2021) found that the entrepreneurial orientation of the Leadership provided a platform for the firm to grow. Therefore, leadership is a critical asset in the enterprise's behavior (Obiwuru et al., 2011; Ullah et al., 2021). Furthermore, Israel (2018) has found that leadership styles statistically influence enterprise performance outcomes and have the most dynamic effects during individual and organizational interaction (Obiwuru et al., 2011).

Transformational Leadership has been cited as influential in increasing sales, profit, employment growth, and owner satisfaction, while inspirational Leadership was recognized as an essential leadership style that could motivate and stimulate employment growth, profit, and owner satisfaction (Israel 2018). However, the effect of entrepreneurial Leadership has received very little research attention, let alone the effect of such Leadership on smallholder farming enterprises in South Africa. The significance of human capital was underscored in endogenous growth theories (Tan 2014). With the advent of the findings, it was clear that the smallholder farming sector could improve its performance by utilizing the capacity of its entrepreneurial leaders.

Table 6.5: Effects of the indicators on entrepreneurial Leadership, social capital, and competitive advantages

Dependent Variables	Relationship	Indicators	β	Beta	S.E.	C.R.
Entrepreneurial Leadership	<---	Growth	,624***	,671	,020	31,311
Entrepreneurial Leadership	<---	Mentorship	,086***	,104	,018	4,861
Entrepreneurial Leadership	<---	Government Support	,128***	,150	,018	7,010
Entrepreneurial Leadership	<---	Effective Communication	,072***	,085	,018	3,955
Competitive Advantage	<---	Unique Service Feature	,352***	,446	,018	19,298
Competitive advantage	<---	Price Value	,300***	,385	,018	16,638
Competitive advantage	<---	Customer experience	,051***	,064	,019	2,756
Competitive advantage	<---	Notable Product Quality	,181***	,233	,018	10,069
Social Capital	<---	Credibility	,383***	,463	,021	18,440
Social Capital	<---	Farming Culture	,081***	,102	,020	4,046
Social Capital	<---	Market agencies	,087***	,111	,020	4,434
Social Capital	<---	Expertise	,115***	,142	,020	5,662
Social Capital	<---	Leadership readiness	,120***	,148	,020	5,882
Social Capital	<---	Creativity	,111***	,138	,020	5,512

Notes: SE = standard error, CR = composite reliability**. Sources:** survey 2020.

Table 6.6: Mediating effects of the indicators on entrepreneurial Performance and commercialization

Dependent Variables	Relationship	Indicators	β	Beta	S.E.	C.R.
Entrepreneurial Performance	<---	Social Capital	,217***	,177	,035	6,237
Entrepreneurial Performance	<---	Competitive advantage	,265***	,228	,033	8,040
Entrepreneurial Performance	<---	Entrepreneurial Leadership	,154***	,143	,030	5,041
Commercialization	<---	Entrepreneurial Performance	,280***	,276	,029	9,589
Competitive advantage	<---	Entrepreneurial Leadership	,037	,040	,026	1,446
Entrepreneurial Leadership	<---	Competitive advantage	-,036	-,033	,028	-1,289

Sources: survey 2020.

6.6.2 The relationship between competitive advantage and enterprise performance

The results in Table 6.6 showed that competitive advantage significantly affects enterprise performance ($\beta = 0.265$, $p < 0.000$). In these results, it was found that both competitive advantage and enterprise performance had a positive relationship. These results confirmed the hypothesis that competitive advantage significantly influences enterprise performance. In the context of the resource-based theories, competitive advantage is derived from unique resources (resource bundles), and to build a resource bundle, an enterprise should have rare, valuable, inimitable, non-tradable, and non-substitutable resources (Ma, 2000; Daunfeldt et al., 2013; Nkemchor and Ezeanolue 2021).

In addition to the results mentioned above, Anwar et al. (2018) reported a significant and positive relationship between the CA and NVP ($r = 0.49$, $p < 0.01$). Efrat et al. (2018) found that competitive advantage was also positively correlated with export performance ($r = 0.28$, $p< 0.05$). However, these studies have not yet uncovered how competitive advantage affects enterprise performance in smallholder farming (Ma, 2000; Ndofor et al., 2011; Anwar et al., 2021). Various researchers found that competitive strategy influences firm performance (Anwar et al. 2018; González-Rodríguez et al. 2018; Lechner and Gudmundsson 2014). Furthermore, it was also reported that these strategies were associated with SMEs' high performance (Parnell 2010).

Table 6.7: Research hypothesis of the smallholder farming commercialization

Hypothesis	Assumptions	Results
H1	Entrepreneurial Leadership significantly influences entrepreneurial Performance.	Confirmed
H2	Competitive advantage significantly influences entrepreneurial Performance.	Confirmed
H3	Social capital significantly influences entrepreneurial Performance.	Confirmed
H4	Entrepreneurial Leadership significantly influences competitive advantage.	Not confirmed
H5	Entrepreneurial Performance significantly influences commercialization.	Confirmed

6.6.3 Social capital and enterprise performance

The study investigated the effect of social capital on the enterprise performance of smallholder farming in South Africa. However, the results are illustrated in Table 6.6 above. Based on the results, social capital significantly influences the enterprise performance of the smallholder farming sector ($\beta = 0.217$, $p < 0.000$). Furthermore, this indicates that a unit increase in social capital increased smallholder farming enterprise performance by 0.217 units when other factors were constant.

Furthermore, hypothesis 4 was confirmed, indicating that social capital significantly influences entrepreneurial Performance. These results were consistent with the findings of other similar studies across the globe (Chunyan and Shuming, 2006; Stam et al., 2014; Muniady et al., 2015; Kwahk and Park, 2016; Mahfud et al.,2020 and Xie et al., 2021). Furthermore, Stam et al. (2014) highlighted the critical role that social capital plays in the performance of small firms. These network connections could enable entrepreneurs to identify new business opportunities by obtaining resources below the market price and securing legitimacy from external stakeholders.

According to Nahapiet and Ghoshal (1998, Tasavori et al., 2018), social capital is the sum of the actual and the potential resources available through, embedded within, and derived from the relationship network owned by individuals or social units. The social capital theory depicts that network relationships provide members with a collectivity-owned credential and capital for credit (Bourdieu, 1986; Adler and Kwon, 2002; Bai et al., 2020; Homscheid, 2020). Wu et al. (2012) found that corporate governance and intellectual capital have a significant and positive interaction influence on the organizational performance in the listed Taiwan design companies.

6.6.4 Entrepreneurial leadership and competitive advantage

The results of the effect of the above are presented in table 6.6. These results demonstrate no significant recursive effect between the two factors in the smallholder farming system of South Africa ($\beta = 0.037$, $p > 0.05$). Therefore, hypothesis 5 was not supported (see Table 6.7). Although the relationship between competitive advantage and entrepreneurial leadership is positive ($\beta = 0.037$, $p > 0.05$), the reverse relationship between these variables was found to be negative ($\beta = -0.036$, $p > 0.05$). The latter showed that when competitive advantage is increased by one unit, it reduces the entrepreneurial Leadership of this farming system. These results appeared counterintuitive and are not supported by the current literature. (Al Mamun et al., 2018). This is so because entrepreneurial leaders often focus on positioning the organization for competitiveness and sustainability (Uhl-Bien and Arena 2018). These leaders were known to be driven by vision and inspiration (Griffith et al., 2015; Baur et al., 2016; Margolis and Ziegert, 2016; Uhl-Bien and Arena, 2018; Usman et al., 2021).

6.6.5 Development of commercialization model for the smallholder farming sector

This current study investigated the effect of the smallholder farming enterprise performance on the prospect of commercialization of smallholder farming businesses. The results were presented in both Figure 6.5 and Table 6.6 above. The results revealed that enterprise performance significantly affected smallholder commercialization in South Africa ($\beta = 0.280$, $p < 0.000$) when other variables were controlled.

These results confirm hypothesis 5, which assumes that entrepreneurial Performance (EP) significantly influences commercialization. These results were consistent with the findings of other research studies (Dembele et al., 2018; Scoones et al., 2018) and agreed with theories that underline the concept of commercialization of agriculture as articulated in the postwar modernization school (Vandergeest 1988). The effort of getting agriculture moving was a crucial goal for the modernization of agricultural practices (Mosher 1966; Kalogiannidis 2020; Mausch et al., 2021) and, henceforth, the call for transformation and commercialization of traditional agriculture (Schultz 1964; Zhou et al., 2013; Zhang et al., 2021).

Agricultural commercialization refers to increasing the proportion of agricultural production sold by farmers to formal market institutions (Pradhan et al., 2010; Martey et al., 2012). Govereh et al. (1999) reported that the commercialization of farming is measured by the unit of sales of the products brought to the market. These authors believed that the commercialization of agriculture involves transitioning from subsistence-oriented farming to increasingly market-oriented production patterns. It also involved the de-peasantries and differentiation of the small-holding production to the capitalist penetration of the market and eventually led to the sector's competition (Lewis 1964).

Ogutu and Qaim (2018); Mutsami and Karl (2020) found that commercialization reduced household income and multi-dimensional poverty. Mutsami and Karl (2020) further reported that the magnitude of the income gains was positively associated with income level. This means that exceptional market-linkage support for marginalized companies may be demanded to refrain from rising earnings inequality. Therefore, for smallholder farming to commercialize its production to meet the standard of the traditional markets, the scale of production, alternative modes novel institutional and policy frameworks are requested (Collier and Dercon 2014; Ola and Menapace 2020). Nkegbe et al. (2018) demonstrated that non-farm activities by farmers promote market participation and levels of commercialization in Ghana, indicating that agricultural commercialization and non-farm engagement are supplements.

6.7. LESSONS LEARNT

The lesson derived from the inferential analysis has been summarized and presented below:

- Industrial knowledge, human relations, and managerial skills were entrepreneurial performance indicators.
- To be competitive and financially sustainable, smallholder farmers should provide unique services with reasonable pricing.
- Furthermore, their products should have notable attributes and a good customer service experience.
- Social capital is essential for smallholder farming performance and is determined by credibility, leadership readiness, linkages with expertise, marketing agencies, and the smallholder farmers' creativity and culture.
- Growth factors, membership, support from the government, and effective communication is essential for smallholder farming entrepreneurial leadership.
- Social capital, competitive advantage, and entrepreneurship leadership cause the entrepreneurial performance in this sector.
- On the other hand, entrepreneurial performance causes the commercialization of the smallholder farming sector of South Africa.

6.8. THE SUMMARY OF THE CHAPTER

The inferential analysis has uncovered that commercialization of the smallholder farming enterprises is a function of entrepreneurial performance. On the other hand, entrepreneurial performance is determined or caused by social capital factors that influence competitiveness and entrepreneurship leadership. Therefore, this chapter presents these factors as constructs of the various indicators. Furthermore, smallholder farming entrepreneurs should be capacitated based on these constructs to be fully commercialized as per the suggested framework.

CHAPTER SEVEN

CONCLUSIONS AND RECOMMENDATIONS

7.1. INTRODUCTION

This chapter provides general conclusions, policy implications, and recommendations on developing an entrepreneurship framework for the economic commercialization of smallholder farming in South Africa. In this chapter, section 7.2 provided the summary of the conclusion, followed by section 7.3, which outlined the policy implications coupled with recommendations followed by the smallholder entrepreneurial commercial model and suggestions for further research, which were explained in sections 7.4 and 7.5, respectively.

7.2. THE OVERVIEW OF THE STUDY

The background of smallholder farming, its sustainability and growth, and its significance were explored in chapter 1. This exploration includes presenting the problem and thesis statements, limitations and delimitations of the study, and technical terminologies. In chapter 2, the study reviewed the current study's theoretical foundation, while chapter 3 reviewed the literature in detail. This review was followed by the methodology section outlined in chapter 4.

Chapters 5 and 6 presented the results of the descriptive and inferential analysis. Lastly, Chapter 7 provided the conclusions and recommendations that captured the overview of the study's main findings, conclusions, implications, contributions, limitations, and future work.

7.3. THE SUMMARY OF THE MAIN FINDINGS

This study aimed to develop a robust dynamic entrepreneurship framework for smallholder farming commercialization, growth, and sustainability in the South African environment. This aim was explored using the descriptive and inferential analysis of the survey and the focus group session. However, the main findings of the study were mainly captured from the empirical analysis of the study-specific objectives, and these main findings are briefly presented below:

7.3.1. identification of factors that best explain (or define) entrepreneurial performance in smallholder farming enterprises

The study revealed that industry knowledge, management skills, human relations, and personal motivation positively and significantly influenced smallholder entrepreneurial farming performance in South Africa.

7.3.2. Determining critical factors (or drivers) significantly impacting the entrepreneurial competitiveness of smallholder farming

The results suggest that unique service features, price value, notable product attributes, and customer experience are the key drivers that impact positively and significantly on the entrepreneurial competitiveness of smallholder farming.

7.3.3. Determining factors that influence the social capital of the smallholder farming system of South Africa

In this study, factors that affect the social capital in the smallholder farming sector were the credibility of the farmer, leadership readiness, marketing agencies, creativity, and farming culture. Unfortunately, smallholder farmers in South Africa appear to lack this social capital and, thus, struggle to commercialize their farming enterprises.

7.3.4. Evaluating the effects of entrepreneurial leadership factors on the smallholder farming sector

The analysis of the entrepreneurship factors revealed that growth factors, mentorship of the farmers, government support, and effective communication underlined the key entrepreneurial leadership factors that positively and significantly affect the smallholder farming sector.

7.3.5. Developing the commercialization model for the smallholder farming sector

The developed model showed that the commercialization of the smallholder farming system is a function of entrepreneurial performance. It also showed that for the smallholder to achieve entrepreneurial performance, it should have competitive advantages over its contemporaries, social capital factors, and quality entrepreneurial leadership. The above factors underlined that entrepreneurial performance should not be confused with its indicators. However, the study has established that social capital causes entrepreneurial performance when other factors are constant. On the other hand, competitive advantage and entrepreneurial leadership also positively and significantly cause smallholder enterprise success.

7.4. SUMMARY OF THE CONCLUSIONS

The study aimed to develop a robust dynamic entrepreneurship framework for the commercialization of smallholder farming in the South African environment to enhance the economic viability of smallholder farming enterprises such that they can be effectively and efficiently able to contribute to the gross domestic product (GDP) of the South African mainstream economy. To achieve this aim, four specific objectives were set, namely:

a) To identify factors that best explain (or define) entrepreneurial performance in smallholder farming enterprises.
b) The vital determining factors (or drivers) significantly impact the entrepreneurial competitiveness of smallholder farming.

c) To determine factors that influence social capital in the smallholder farming sector of South Africa.
d) To evaluate the effect of entrepreneurial leadership factors in the smallholder farming sector.
e) To develop the commercialization model for the smallholder farming sector.

In addition, the study provided extensive theoretical reviews regarding the entrepreneurship and commercialization of smallholder farming enterprises throughout the globe. Attention was given to entrepreneurial performance, leadership, social capital, competitiveness, and commercialization.

The results of the study that sought to determine the entrepreneurial performance of the smallholder farming sector revealed that for smallholder farming to achieve high performance, industrial knowledge, human relations, and managerial skills were critical to turning around the ailing smallholder farming sector that has failed to commercialize its production for several decades.

The investigation of the factors that could affect the entrepreneurial competitiveness of the smallholder farming sector in contemporary South Africa revealed that unique service features, the price value of the products, notable product features, and consumer experience significantly influenced the entrepreneurial competitiveness of the entrepreneurial competitiveness this sector.

The study results sought to identify crucial factors that could ensure the transformation of the smallholder farming sector into a competitive and formidable institution. A competitive smallholder farming enterprise could contribute to national food security, reduce inequalities and unemployment, and contribute to the gross domestic product of the South African nation. The current study has shown that unique service features, the price value of the products, notable product features, and consumer experience significantly influenced the entrepreneurial competitiveness of the smallholder farming sector in South Africa.

The results of the study that sought to contribute to identifying crucial factors that could be used to ensure that the smallholder farming sector is transformed into a competitive and formidable institution predicted that there was substantial evidence of the existence of a relationship between social capital and identified factors such as credibility, farming culture, market agency, expertise, leadership readiness, and creativity.

The study's findings sought to assess the influence of entrepreneurial leadership on the smallholder farming system in South Africa. It was concluded that government support, growth, mentorship, and practical communication significantly affect the entrepreneurial leadership of smallholder farming.

Lastly, the results of developing a commercialization model for the smallholder farming system of South Africa showed that entrepreneurial leadership, social capital, and competitive advantage positively and significantly influence the enterprise performance of smallholder farming and, ultimately, mediate the commercialization of the enterprises in this system.

7.5. THE IMPLICATIONS AND CONTRIBUTIONS OF THE STUDY

The implications and contributions of this study were evaluated in four ways:

i. Theoretical implication and contribution
ii. The practical significance and its contribution
iii. The agri-business sector implication and contribution and
iv. Its implications for management and leadership.

These implications and contributions were elaborated on in the subsequent section of this chapter.

7.5.1. Theoretical implications and contributions

The need for smallholder farming enterprise performance has recently dominated public discourse (Cousins and Scoones, 2010; Okunlola et al., 2016, Operation Phakhisa, 2016; Kansanga et al., 2019; Wale and Chipfupa, 2021) simply because of the history of South African agricultural sector where previously disadvantaged African farmers were marginalized in favor of commercial white farming (Jordaan et al., 2014, African Communist, 2017). In addition, the popularity of entrepreneurial performance has been triggered by its potential to reduce the high attrition experienced in smallholder and commercial land reform farming.

However, none of the studies have reported which factors could potentially ignite the entrepreneurial success of this sub-sector, let alone in a South African socio-economic environment. Currently, many studies (CDS, 2007; Mmbengwa *et al.*, 2011; Operation Phakhisa, 2016; Adeleke et al., 2020; Nyawo and Mubangizi, 2021) have reported the failures of smallholder farmers (those that are formed because of land reform) with the recommendation for the need of this sub-sector to adopt an entrepreneurial approach for it to succeed. For example, Jordan *et al.* (2014) called for the behavioral change of smallholder farming to be successful. On the other hand, Putnam (2001) called for smallholder farmers to create their social capital within their sectoral environment.

In addition, Jordan *et al.* (2014) emphasized the importance of the incentives that could guide the smallholder transecting partners and individual organizations to overcome their market stumbling blocks. However, the prevalence of the high failure rate of smallholder farmers means that this farming could not be associated with sustainability, despite the 2008 World Development Report that insinuates and emphasizes the central role of smallholder-led agricultural development trajectory (World Bank, 2007).

The current research findings contribute to differerent kinds of literature on agricultural development, especially enterprise development, competitiveness, and sustainability. In addition, this work systematically investigates the smallholder farming enterprise competitiveness to foster agrarian transformation, which is currently given a high priority by the South African government (Operation Phakhisa, 2016).

South African government got its first democracy in 1994; since then, it has invested a considerable number of resources in improving the commercialization of the smallholder farming system. This ensured that the previously disenfranchised majority of smallholder farmers had productive land ownership. As a result, several studies have confirmed that smallholder farmers in the agricultural sector play an essential role in agricultural markets (DAFF, 2016, Cezula, 2018). However, Cezula (2018) reported that smallholder farmers had experienced a chronic lack of lucrative and sustainable markets, which made them operate at the periphery of the agricultural space in the South African agricultural environment. This situation is highly undesirable and can potentially cause political instabilities, which could disrupt the socio-economic stability of the entire nation (Mmbengwa et al., 2011).

Furthermore, the current study has demonstrated that critical factors must be factored in when establishing the social capital formations for this farming sector. The study has also indicated that social capital establishments should not rely on one factor but could be enhanced by various factors. Therefore, the theoretical supposition for the modernization of this agricultural sector may require careful consideration of its full incorporation within the capitalist mode of production, where social capital factors are the critical component of the enterprise's success.

Heynig (1982) argued that, in essence, smallholder production is necessary to satisfy capitalistic demands for agricultural goods and services. Although the smallholder farmers admit that there is a tendency towards economic polarization and marginalization through historically entrenched market systems that favor the commercial establishments in the South African agricultural sector, several studies (Putnam, 1993, Jordaan et al., 2014) seem to have pointed out the need for a well-planned, orchestrated, and resourced social capital systems. Jordaan et al. (2014) additionally argued that a high degree of success in the smallholder farming sector

could be achieved. However, smallholder farmers operate their farming enterprises in groups that do not have homogeneity, and in many cases, these groups often get affected by group dynamics.

It was recognized that any society's economic development relies heavily on solid social capital systems (Beugelsdijk and Schaik, 2001, Jordaan et al., 2014). Moreover, norms, trust, and networks consolidate institutional and economic machinery (Putnam, 1993). Therefore, policy and practitioners need urgent attention to the weakness of the social capital factors in the smallholder farming sector.

These findings highlighted the critical theoretical impact of entrepreneurial leadership factors and their role in transforming the smallholder farming system of South Africa. In addition, transformational leadership in the context of the smallholder farming system is a significant part of the agri-entrepreneurial structure (Van Dierendonck and Nuijten 2011). Theoretical the results of this research could be utilized since smallholder farmers always face similar challenges globally (Thorner 1965).

Thorner (1965) reported that the transformation of the agrarian system is a critical challenge that confronts the smallholder farming system. The transformation issues could affect both social and economic sectors. Thus, transforming the agrarian sector will likely overcome the peasantry's misery, squalor, and illiteracy in the traditionally rural areas where smallholder farming systems are practiced. Moreover, it was also shown that the modernization of farmer agriculture, particularly their farming technique, requires strong entrepreneurial leadership by smallholder farmers.

The enterprise leadership should tackle how transformation and modernization sustainably take place. Developing countries where many peasants survive on the produce of smallholder farming should be encouraged to invest their capital in developing this sector. Developing the smallholder farming system in developing countries can stimulate their national economy. However, all these cannot be met without incorporating the enterprise leadership factors such as mentorship, practical communication, and government support, as this study alluded to.

The current study suggests several necessary theoretical and practical measures that could be considered when practitioners are facilitating the commercialization of the smallholder farming sector in South Africa. First, theoretically, the study suggested it could be challenging for this sector to commercialize without transforming the smallholder farming enterprises to perform optimally. In other words, the study has found that enterprise performance is a mediator for commercialization. Furthermore, the study has also found that investment in entrepreneurial leadership, social capital, and competitive advantage could improve enterprise performance in this sector.

Aliber and Hall (2012) and Chirwa and Adeyemi (2020) viewed smallholder farmers as a potential backbone of a successful green revolution in Asian countries. They reflected the positivity of smallholder contribution in South Africa, where their attrition seems alarmingly high. Their description of the socio-economic contribution is evident from their citation below:

> *"Smallholder farming (family farming) is a small-scale farm run by a family using household labor or limited hired labor. It is also the most common type of farming in other developed countries. Many countries tried to promote large-scale commercial farming, believing that smallholder farming is inefficient, backward, and resistant to change. The results were unimpressive and sometimes disastrous. State-led efforts to intensify agricultural production in sub-Saharan Africa, particularly in the colonial period, focused on large-scale farming but were not sustainable. In contrast, Asian countries that eventually decided to promote small family farms could launch the green revolution. They started supporting smallholder farming after collective farms failed to deliver adequate incentives to produce, as in China's farm collectivization, or on the verge of a hunger crisis, as in India and Indonesia. Developing countries promote smallholder agriculture for various political reasons and profile these farming as the center for the growth and t of the economy and the basis of their industrialization. (World Bank, 2007)."*

7.5.2. Practical implications and contributions

The entrepreneurial performance of smallholder farming may play a vital role in poverty-stricken rural areas of South Africa, where the economy relies on smallholder farming. This assertion has been confirmed by Amekawa *et al.* (2010). Notably, this study has identified four factors that could influence the entrepreneurial performance of smallholder farming. These factors were often overlooked in the planning and support of smallholder farming in South Africa, resulting in many supportive smallholder farming programs having failed and a high loss of revenue with an increased loss of confidence in the success of smallholder farming.

The results of this study could turn around the selection of smallholder farming in favor of criteria that could include those factors, which may provide a turnaround in this sector. A turnaround in this sector could mean that smallholder farmers could contribute towards the gross domestic product of South Africa and could be able to create decent employment, which in return could reduce income inequalities in these areas. Furthermore, the increase in income may have some socio-economic benefits to the communities, the South African economy, and infrastructural development.

Smallholder farming contributes to rural and peri-urban households and markets (DAFF, 2016). This farming system is vital in South African job creation, rural development, and food security (Mazibuko & Oladele, 2012). The National Income Dynamics Study (NIDS) 2008 reported that slightly more than 1, 25 million people, or 4 or 6% of the adult population, are smallholder farmers involved in some form of agricultural production (Cezula, 2018). Aliber & Hart (2009); and Diamant et al. (2016) presented evidence that shows why poor black households and individuals engage in agricultural production.

The institutionalization of the social capital systems could make smallholder farming sustainable and economically viable such that it could attract a high caliber of human capital and investments. Therefore, the policies and funding interventions should be linked to social capital rather than historical political disempowerment. Furthermore, the credibility, leadership, expertise, availability of the market agents, creativity, and culture should underpin the cohesiveness of the social capital models of the smallholder farming sector. Jordaan et al. (2014) further argued that group activity could contribute to the development of the mutual reputation of the smallholder farming sector such that its production activities could be bankable and attract private and public investments based on productive merit.

On the practical level, these findings recommend that South African smallholder farmers need to determine the leaders who have the qualities to inspire, grow, and mentor. These leaders could develop and sustain them into a formidable smallholder farming system. Thereby ensuring that the government supports them. To achieve an economically modernized smallholder system, practical interventions that require scientific expertise may transform this fractured sub-sector. Advocacy servant and transformational leadership may need to be incorporated to foster entrepreneurial leadership philosophies (Washington et al., 2014).

Practically, commercialization of the smallholder farming sector should only be conceptualized when the critical factors outlined above are considered. This study points out that it is not enough for the stakeholder to develop commercialization policies and expect the sector to commercialize without those measures automatically. Aliber and Hall (2012) have reported that the South African government has crafted numerous policies to stimulate the commercialization of smallholder farming. However, four years later, it was found that smallholder farming has been struggling to commercialize despite the magnitude of allocated financial resources.

Other researchers (Antwi and Oladele, 2013; Amanah et al., 2021; Mwar et al., 2021) believed that commercialization of this sector required the farmers' necessary management skills and technical know-how. On the other hand, some researchers seem to think that for this sector to commercialize, the farmers should be linked to agricultural value chains (Letsoalo and Van Averbeke, 2005; Dong, 2021). All these findings appear helpful, but considering the current study, leadership, social networks, and competitive advantage are crucial considerations for the high production volume, which could enable commercialization to be realized.

7.5.3. Contributions to agri-business government policies

The empirical results obtained in this study uncovered several issues concerning the development of entrepreneurship and commercialization of smallholder farming in South Africa. These results highlighted the comprehensiveness of the smallholder development and commercialization that should be handled to be transformed into an economically viable enterprise. In addition, these have brought to the fore the centrality of enterprise performance to resolve the stubborn challenges of smallholder commercialization of these enterprises and the need to use entrepreneurial leadership, social capital, and competitive advantage to increase enterprise performance.

Given this context and the application of leadership (Belias et al., 2015) within a particular institutional development theoretical framework, it seemed apparent that the main thrust for the development and commercialization of this sector relies on entrepreneurship, contrary to the current provision of financial and technical support which seem to happen in the exclusion of the above.

Abu (2012) reported that the South African government had embarked on Farmer Support Programmes (FSP) in the past. In addition, a Comprehensive Agricultural Support Program (CASP) was recently established to further stimulate smallholder development in rural areas (Chauke et al., 2014). However, both FSP and CASP have marginal success in inducing enterprise performance in this sector (Chauke and Anim 2013; Botlhoko and Oladele 2013). Failure to emphasize entrepreneurship behavior and institutional and leadership development has compromised the smallholder farming success in participating in the agro-food chains (Jordaan et al., 2014) and thereby constrained its commercialization quest.

The current study suggests a different direction (i.e., building entrepreneurial leadership, social capital, and competitive advantage as the basis for enterprises' performance that could lead to commercialization). The 2001 Strategic Plan of the Department of Agriculture, Forestry and Fisheries (DAFF) envisioned a united and prosperous agricultural sector (Aliber and Hall 2012). This plan was a unimodal policy framework to bridge the inherent dualistic agricultural system. This plan sought to maximize the sector's contribution to the economic growth and development of the South African economy (NDA, 2001). However, this vision could not be attained solely because smallholder farming, despite its resources, has been struggling to be economically viable and, therefore, continue to be poor compared to commercial counterparts. This gap between the two sectors seems to have widened to date.

According to the current study, a complementary dualism for commercial and smallholder farming is not a challenge if it operates within its value chain, with strong entrepreneurial leadership, social networks, and competitive advantage. If the above is implemented, smallholder enterprises will perform their social and economic roles. Hence, the economic contribution as outlined by the South African government policies such as National Development Plan (NDP), The New Growth Path (NGP), Reconstruction and Development Program (RDP), Accelerated shared growth, Land and Agrarian Reform Project (LARP), Recapitalization and Development Program (RECAP) and lately the new dawn.

7.5.4. Contributions to management and leadership

The study has uncovered several aspects that could significantly commercialize smallholder farming enterprises in South Africa. However, these factors are known to be of lesser priority when the government prioritizes its support systems. Furthermore, the study has exposed the critical indicators of the identified constructs. Therefore, these constructs need to be considered when planning the support for the commercialization of these farming enterprises.

At the strategic level, the study also revealed that policy trajectory must be amended to favor the indicators of growth and development of these farmers. If the policies are correctly aligned with the indicators suggested by the study, the coordination and execution of the strategy guided by the suggested framework could be much easier. The framework also serves as the guide for the entrepreneurial leadership that could ensure commercialization in these enterprises.

7.6. REVISITING THE HYPOTHESIS OF THE STUDY

The assessment of the proposed hypothesis in the development framework for the commercialization of smallholder farmers resulted in the acceptance of the following alternative hypothesis:

Hypothesis (H1): In smallholder farming in South Africa, entrepreneurial leadership (EL) has a significant mediating influence over entrepreneurial performance (EP).

Hypothesis (H2): In smallholder farming in South Africa, competitive advantage (CA) has a significant mediating influence over enterprise performance (EP).

Hypothesis (H3): Social capital has a significant mediating influence over enterprise performance (EP) in smallholder farming in South Africa,

Hypothesis (H4): Entrepreneurial leadership has a significant mediating recursive influence over the competitive advantage (CA) and vice versa in smallholder farming in South Africa,

Hypothesis (H5): In smallholder farming in South Africa, enterprise performance (EP) significantly mediates recursive influence over-commercialization.

7.7. AREAS FOR FUTURE STUDIES

The study has developed various areas of future studies guided by its study objectives. Thus, this section has narrated the future areas of the study based on this set of objectives. The investigation of the first objective has pointed out that researchers should look at how to modernize the smallholder farming system in the future. This modernization strategy should also provide a framework for entrepreneurial activation strategies. It will also be essential to look at how entrepreneurial interventions could leverage success in different age groups, gender, and those who have diverse educational qualifications.

On the other hand, future studies of the demographics of the provinces should be considered when looking at the effect of the competitive indicators on this farming system. For example, modeling the different sizes of the smallholder farming system to provide the entrepreneurial competitiveness that would bring about their commercialization could be investigated in the future. This aspect arises from the investigation of research objective two of this study. This study may provide more information regarding the type of interventions that may effectively induce competitive advantages the enterprises.

On the third objective, the study suggested that future research focus on the form and content of the model of social capital establishments. The status of the social capital system in the smallholder farming sector should be investigated. It would also be interesting to research the challenges and strengths facing this sector's current social capital systems. The possibility of attracting (the elite members of the classical societal stratum, such as the educated youth, women, and professionals) to form the value chain systems within a social capital structure may add much value to the smallholder farming system.

Given the gaps identified by this study and the results obtained in the literature review, the study suggests the following areas for further research and development:

- Study to investigate the feasibility of implementing the entrepreneurial leadership framework in smallholder farming in different farming environments of South Africa.
- The study intends to establish the functioning of new institutional approaches that foster social capital and commercialization in this sector.
- Research to determine the socio-economic impact of commercialization of the smallholder farming sector.
- Study seeking to determine the frequencies of commercialization in different agricultural commodities in South Africa.
- Research seeking to determine the entrepreneurial behavior of successful South African smallholder farmers.
- Study to monitor and evaluate the effect of entrepreneurial orientation and culture on the sustainability of commercialized smallholder farming enterprises.

7.8. LIMITATION OF THE STUDY

The present study has limitations; some could be attributed to methodological aspects. The study's reliance on the survey and focus sessions also posed limitations. A wealth of information could have been sourced if other data sets, such as time series and panel data, were used. However, the level of organization of smallholders and its institutionalization has also posed some further limitations in that the smallholder farmers in South Africa do not have the habit of keeping production data. Therefore, only survey data were deemed reliable sources of data information. Inherently, cross-sectional data (survey) has the limitation of preventing researchers from making causal inferences (Bélanger *et al.*, 2016).

The other notable limitation of this study could be the research design's scope. The fact is that a cross-sectional study has been employed so some historical trends could have been missed. Subsequently, the time series or panel data research could have disclosed more critical trends. In addition, the study should have explored the interaction of entrepreneurial leadership factors. However, the current study did not analyze the influence of the interactive factors, and thus the effects of such interactions are still unknown, thus robbing the sector of the opportunities to exploit the existence of such combinations.

7.9. CHAPTER SUMMARY

This chapter reflected the summary of the entire study by providing, amongst others, the study overview, recapping the main findings, and conclusion. It went further to reflect on the broader contribution and implication of the study in the body the knowledge. At the end of the chapter, this chapter revisited the study's hypothesis, areas for future studies, and the limitation of the study.

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ANNEXURES

ANNEXURE 1: SURVEY QUESTIONNAIRE

QUESTIONAIRE-SMALLHOLDER FARMERS

Questionnaire number

Project Name: …….

SOCIAL FACTORS

A. BIOGRAPHIC INFORMATION

A1. Please indicate your age incomplete

A2. Indicate your province

Category	Codes
Limpopo	1
Gauteng	2
Northwest	3
Western Cape	4
Mpumalanga	5
Eastern Cape	6
Free State	7
Northern Cape	8
Kwazulu-Natal	9

A3. Please indicate your gender

Male	1
Female	2

A4. Please indicate your educational achievements.

No education	1
Grade 12	2
Diploma	3
Degree	4
Honors	5
Masters	6
Doctorate	7

A5. What is your educational background?

Category	Codes
Agriculture	1
Science	2
Commerce	3
Engineering	4
Humanities	5
Medicine	6
None	7

A6. Please indicate your business experience (in years)

A7. Please indicate your sales experience (in years)

A8: Please select the areas of your birth

Category	Codes
Villages	1
Farms	2
Township	3
Suburb	4
Other	5

B. SMALLHOLDER FARMING PERFORMANCE

In your opinion, please provide the rating of the importance of the following factors in improving the performance of your farming enterprise.

	Not Important									**Extremely important**
1. Business performance., Do you think business performance is essential for the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
2. Smallholder Industry knowledge…, Do you think industry knowledge is essential for smallholder farming?	1	2	3	4	5	6	7	8	9	10
3. General management skills…., Do you think general management skills are essential for the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
4. Human relationship skills…, Do you think human relation skills are essential for smallholder farming?	1	2	3	4	5	6	7	8	9	10
5. Personal motivation…., Do you think personal motivation is essential for the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10

C. SMALLHOLDER FARMING COMPETITIVENESS

Please evaluate on a scale of 1-10 the factors which could help improve the incomes of your farm enterprise

	No Improvements									**More improvements**
1. Business competitiveness…, Do you think business competitiveness can improve the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
2. Unique service features …, Do you think business unique services features can improve the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
3. Price or value…, Do you think business competitiveness can improve the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
4. Customer convenience…, Do you think business customer convenience can improve the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
5. Customer experiences…, Do you think customer experiences can improve the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
6. Notable product attributes …, Do you think notable product attributes can improve the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10

D. SOCIAL CAPITAL FOR SMALLHOLDER FARMING

Please rate the importance of the following factors on their contribution to the social capital concepts of your farming operations

	Not Important									**Extremely important**
1. Trustworthiness / Credibility…, Do you think credibility is essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
2. Expectation / Personal vision…, Do you think personal vision is essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
3. Market agency/communication…, Do you think an effective market agency is essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
4. Farming culture…, Do you think farming culture is essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
5. Knowledge…, Do you think knowledge is essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
6. Expertise…, Do you think expertise is essential for developing the smallholder farming sector?										
7. Obligation / Leadership readiness…, Do you think leadership readiness is essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
8. Innovativeness/creativity…, Do you think creativity is essential in developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
9. Norms & Standards/performance…, Do you think norms and standards are essential for developing the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
10. Leadership role…, Do you think leadership is necessary for level developing	1	2	3	4	5	6	7	8	9	10

E. ENTREPRENEURIAL LEADERSHIP QUALITIES FOR SMALLHOLDER FARMING

Please evaluate the different entrepreneurial leadership qualities on a scale of 1-10 to indicate which quality could help improve your farming business.

	No Improvements									**Higher improvements**
1. Consensus building …, Do you think consensus building can improve the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
2. Effective communication skills…, Do you think effective communication can improve the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
3. Mentorship of members or staff …, Do you think mentorship of members can bring improvement in the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
4. Motivation of members or staff…, Do you think motivation can bring improvement in the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
5. Building trust…, Do you think building trust can improve the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
6. Government support…, Do you think government support can improve the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
7. Growth…, Do you think growth can improve the leadership of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10

H. COMPETITIVE ADVANTAGE FOR SMALLHOLDER FARMING

Please evaluate the different factors that can improve the competitive advantages of your farming venture using a scale of 1-10 to indicate which one has a higher impact on improving your farming business.

	No Improvements									**Higher improvements**
1. Entrepreneurial orientations …, Do you think entrepreneurial orientation can improve the competitive advantage of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
2. Support Environment …, Do you think the support environment can improve the competitive advantage of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
3. Legal environment …, Do you think the legal environment can improve the competitive advantage of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10
4. Government support …, Do you think government support can improve the competitive advantage of the smallholder farming sector?	1	2	3	4	5	6	7	8	9	10

THANK YOU VERY MUCH

ANNEXURE 2: A SAMPLING PLAN

A SAMPLING PLAN

a) **Sampling unit:** smallholder farmers (cooperative & individual farmers) and youth who are involved or studying agriculture
b) **Population (universe):** smallholder farming sector
c) **The sampling frame:** list of practicing/operational smallholder farmers and registered agricultural youth in provinces

Table 1: Sample plan for smallholder farmers

Phases	Activities	Proposed outcomes	Time frames
Step 1	Definition of the population of interest	1. Identification of the smallholder farms 2. Identification of youth in agriculture	June 2017
Step 2	Selection of data collection methods	1. Quantitative: Cross-sectional/survey 2. Qualitative: Focus sessions 3. Quantitative data collection	June –July 2017
Step 3	Specify sampling frame	1. List of operational smallholder farmers.	June 2017
Step 4	Selection of sampling method	1. Cluster randomized random sampling 2. Judgmental sampling	May 2017
Step 5	Determination of the sample size	1. Greater than 600 respondents in six provinces	June-August 2017
Step 6	Development of an operational plan	1. Plan to conduct interviews & focus sessions	May 2017
Step 7	Execution of the operational plan	2. Commencement of sampling	January to March 2018-

ANNEXURE 3: FOCUS GROUP SESSION GUIDE

DBL QUESTIONAIRE- FOCUS GROUP SESSION

ECONOMIC COMMERCIALIZATION OF SMALLHOLDER FARMING

Questionnaire number …….

SOCIAL FACTORS

A. BIOGRAPHIC INFORMATION

A1. Please indicate your age incomplete

A2. Indicate your province

Category	Codes
Limpopo	1
Gauteng	2
North West	3
Western Cape	4
Mpumalanga	5
Eastern Cape	6
Free State	7
Northern Cape	8
Kwazulu-Natal	9

A3. Please indicate your gender

Male	1
Female	2

A4. Please indicate your educational achievements.

No education	1
Grade 12	2
Diploma	3
Degree	4
Honors	5
Masters	6
Doctorate	7

A5. What is your educational background?

Category	Codes
Agriculture	1
Science	2
Commerce	3
Engineering	4
Humanities	5
Medicine	6
None	7

A6. Please indicate your business experience (in years)

B. SMALLHOLDER FARMING PERFORMANCE

B.1 Smallholder Industry knowledge…, Do you think industry knowledge is essential for the smallholder farming sector? Explain your answer

B.2 General Management skills…, Do you think general management is essential for the smallholder farming sector? Explain your answer.

B.3 Human relationship skills…, Do you think human relationship skills are essential for smallholder farming? Explain your answer.

B.4 Personal motivation…, Do you think personal motivation is essential for the smallholder farming sector? Explain your answer.

C. SMALLHOLDER FARMING COMPETITIVENESS

C.1 Unique service features …, Do you think business unique services features can improve the smallholder farming sector? Explain your answer

C.2 Price …, Do your products' price values can improve smallholder farming? Explain your answer

C.3 Customer convenience …, Do you think business customer convenience can improve the smallholder farming sector? Explain your answer

C.4 Customer experience …, Do you think business customer experience can bring improvement to the smallholder farming sector? Explain your answer

C.5 Notable product attributes …, Do you think business product quality can bring improvement to the smallholder farming sector? Explain your answer

D. SOCIAL CAPITAL FOR SMALLHOLDER FARMING

D.1 Trustworthiness / Credibility…, Do you think credibility is essential for developing the smallholder farming sector? Explain your answer

D.2 Market agency/communication…, Do you think an effective market agency is essential for developing the smallholder farming sector? Explain your answer

D.3 Expertise…, Do you think expertise is essential for developing the smallholder farming sector? Explain your answer

D.4 Obligation / Leadership readiness…, Do you think leadership readiness is essential in developing the smallholder farming sector? Explain your answer

D.5 Innovativeness/creativity…, Do you think creativity is essential for developing the smallholder farming sector? Explain

D.6 Farming culture…, Do you think farming culture is essential in developing the smallholder farming sector? Explain

E. ENTREPRENEURIAL LEADERSHIP QUALITIES FOR SMALLHOLDER FARMING

E.1 Effective communication skills…, Do you think effective communication can improve the leadership of the smallholder farming sector? Explain

E.2 Mentorship of members or staff …, Do you think mentorship of members can bring improvement in the leadership of the smallholder farming sector? Explain

E.3 Government support …, Do you think government support can improve the leadership of the smallholder farming sector? Explain

E.4 Growth…, Do you think growth can improve the leadership of the smallholder farming sector? Explain

F. DEVELOPMENT OF COMMERCIALIZATION FOR THE SMALLHOLDER

F.1 Does entrepreneurial Leadership significantly influence entrepreneurial performance? Explain

F.2 Does competitive advantage significantly influence entrepreneurial performance? Explain

F.3. Does social capital significantly influence entrepreneurial performance? Explain

F.4. Does entrepreneurial performance influence commercialization? Explain

THANK YOU VERY MUCH

ANNEXURE 4: CERTIFICATE OF LANGAUGE EDITING

Certificate

THESIS LANGUAGE EDITING

It is certified that a Thesis listed below was edited by Desmond Editing and Research Services (DERS) for the accuracy of the language, format and grammar use. 99 % of the document is the reflective of the originality of the author.

Awarded to:

Prof V.M Mmbengwa

Thesis Title:

THE DEVELOPMENT OF ENTREPRENEURSHIP FRAMEWORK FOR THE ECONOMIC COMMERCIALISATION OF SMALLHOLDER FARMING IN SOUTH AFRICA

Khathutshelo Rambau

03 November 2021

ANNEXURE 5: ETHICS CLEARANCE APPROVAL

National Agricultural Marketing Council
Promoting market access for South African agriculture

Block A | 4th Floor | Meintjiesplein Building | 536 Francis Baard Street | Arcadia |0002
Private Bag X935 | Pretoria | 0001
Tel: 012 341 1115 | Fax: 012 341 1811/1911
http://www.namc.co.za

RE: ETHICAL CLEARANCE OF THE SECONDARY DATA "COMMERCIALIZATION OF THE SMALLHOLDER FARMING IN SOUTH AFRICA"

Dear Professor, Mmbengwa,

I refer to the above and confirm that the NAMC researchers assessed before the commencement of research and found that the study above is free from any ethical concerns.
As NAMC, we are satisfied that we have complied with all the necessary considerations of ethics.

Should you look for any assistance, do not hesitate the contact me.

Yours sincerely

Tshilidzi Netswinganani
(HR Professional Generalist: SABPP Member No. 42865277)

Human Capital Practitioner
Corporate Support Service
National Agricultural Marketing Council
Tel: +27 (12) 341 1115
Direct: +27 (12) 400 9752
Fax: +27 (12) 341 1911
Cell: +27 71 280 3671 **Email:** tshilidzi@namc.co.zaWebsite: www.namc.co.za

Cnr

ANNEXURE 6: UNISA SBL ETHIC CLEARANCE CERTIFICATE

The University of South Africa. PC' Box. 392. 0003 South Afl" K.n

Janacle! and Alexandra! 683. Tei' +27 ! 1 652 0000. Fax: +27 6320299

sbl@unisa.ac VV€:i.3fiite-www.unisa.ac.za/sbl

SCHOOL OF BUSINESS LEADERSHIP

RESEARCH ETHICS REVIEW COMMITTEE (GSBL CRERC)

18 September 2020

Ref#: 2020 SBL DBL 001 FA
Name of applicant: Prof VT Mmbengwa
Student 79171222

Dear Prof Mmbengwa

Decision: Ethics Approval

Student: Prof VM Mmbengwa, (VMmbengwa@namc.co.za , 072 831 3678)

Supervisor: Prof P Joubert, (Joubeior@unisa.ac.za , 012 429 8086)

Co-Supervisor: Prof D Tustin (tustidh@unisa.ac.za, 012 429 3156)

Outcome of the SBL Research Committee:

Approval is granted for the duration of the Project

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the SBL Research Ethics Review Committee on the 17/09/2020.

The proposed research may now commence with the proviso that:

1) The researcher will ensure that the research project adheres to the relevant

45 Building leaders who go beyond

SBL GRADUATE SCHOOL OF BUSINESS LEADERSHIP UNISA

Project Title: The Development of an Entrepreneurship Framework for the Economic Commercialisation of Smallholder Farming in South Africa.

Qualification: Doctor of Business Leadership (DBL)

Expiry Date: October 2022

Thank you for applying for research ethics clearance; SBL Research Ethics Review Committee reviewed your application in compliance with the Unisa Policy on Research Ethics.

University o of Sowth) Box I-laif. a South Africa
Cnr Janadel and Alexandra Avenues. Midrand. 1685. Tel: +27 0000, +27 0299
E-mail: sbl@unisa.ac.za Website: www.unisa.ac.za/sbl

Guidelines set out in the Unisa Covid-19 position statement on research ethics attached

2) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
3) Any adverse circumstance arising in undertaking the research project that is relevant to the study's ethicality and changes in the methodology should be communicated in writing to the SBL Research Ethics Review Committee.
4) An amended application could be requested if there are substantial changes from the existing proposal, mainly if those changes affect any study-related risks for the research participants.
5) The researcher will ensure that the research project adheres to applicable national legislation, professional codes of conduct, institutional guidelines, and scientific standards relevant to the field of study.

Kind regards,

Prof R Ramphal

011 652 0363 or ramphrr@unisa.ac.za

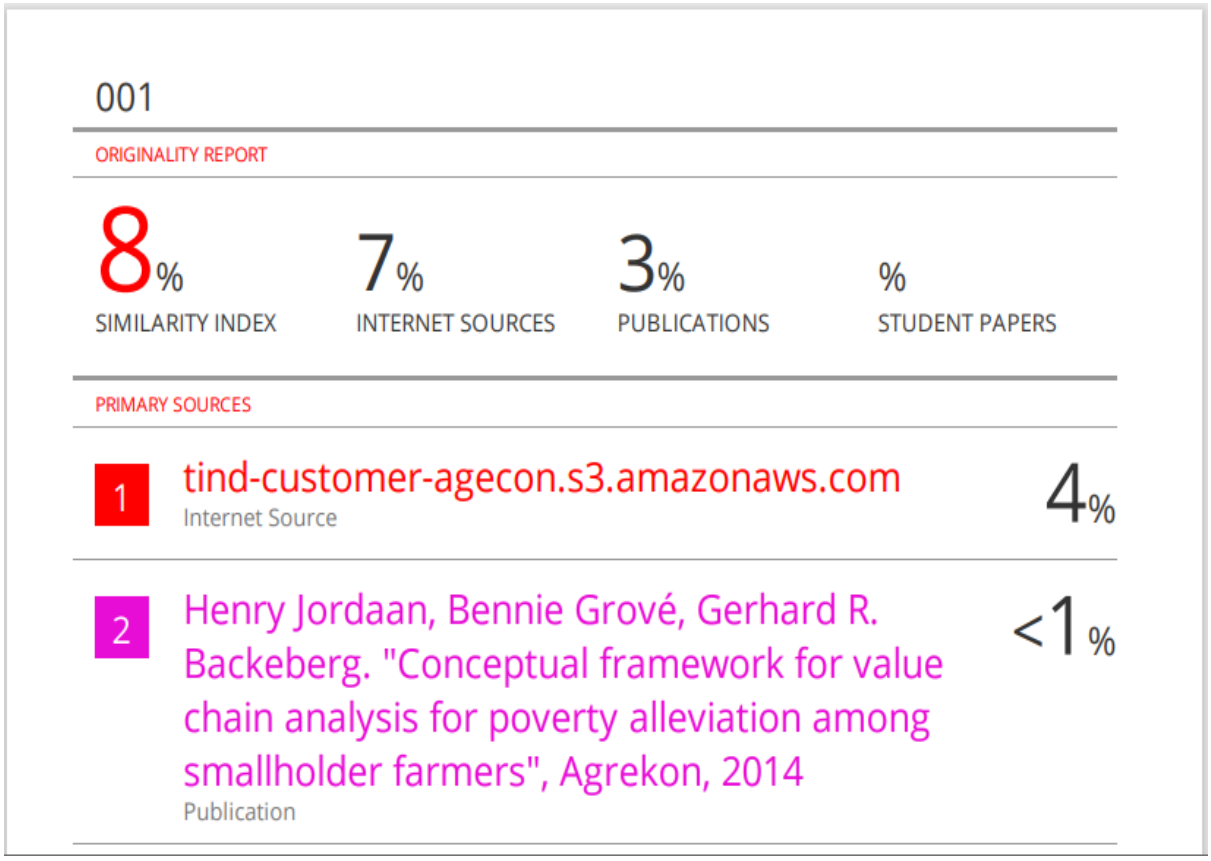
Prof P Msweli

Chairperson: SBL Research Ethics Committee

Executive Dean (Acting): Graduate School of Business Leadership

Oll- 652 0256/mswelpaunisa.ac.za

ANNEXURE 7: TURNITIN (PLAGIARISM TEST) REPORT



001

ORIGINALITY REPORT

8%	7%	3%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	tind-customer-agecon.s3.amazonaws.com Internet Source	4%
2	Henry Jordaan, Bennie Grové, Gerhard R. Backeberg. "Conceptual framework for value chain analysis for poverty alleviation among smallholder farmers", Agrekon, 2014 Publication	<1%