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2025
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FACULTY OF COMMERCE, LAW AND MANAGEMENT

INVESTIGATING THE INFLUENCE OF ENTREPRENEURIAL CAPITAL ON SMALL-SCALE FARM PERFORMANCE IN NAMIBIA'S AGRICULTURAL SECTOR

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RESEARCH REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF MASTER OF MANAGEMENT IN

ENTREPRENEURSHIP AND NEW VENTURE CREATION

(MMENVC)

WITS BUSINESS SCHOOL – PARKTOWN

DECLARATION FORM

University of the Witwatersrand, Johannesburg

School of Management (Wits Business School)

SENATE PLAGIARISM POLICY

Declaration by Student:

I, Sara Iyaloo S. Ekondo (Student number: 2015017) a student registered for a Master of Management in Entrepreneurship and New Venture Creation in the year 2024. I hereby declare the following:

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Signed :_____

Date Submitted : _____

DEDICATION

I would like to dedicate this thesis paper to my fathers; my Heavenly Father – God, and my earthly father Tate David Ekondo. Their validation of my identity and purpose have given me confidence in my value-add to the world. Tate's support, love and emphasis on the knowledge of God and me has always directed me to the Rock that is greater than I. Through this I found the liberty to give all the gifts and talents in me full expression. God's wisdom and counsel have guided my decision making from childhood and it has always brought me to a bountiful place. His divine protection has preserved my life on numerous occasions and for that my heart will forever sing praises to His name. I am grateful to have discovered the role I was assigned in bringing about positive change in my community, country and world.

ACKNOWLEDGEMENTS

Firstly, would like to give praise and honour to the Lord, for His divine favour and strength in taking on this feat of pursuing this academic journey. I would like to deeply thank my supervisor Dr. Robert Venter for the immense support and constructive criticism offered during the research journey. He has at all times gone out of his way to ensure that I get timely feedback.

I would like to acknowledge the Canon Collins Trust for finding me worthy to be part of the Cannon Collins network and for the financial and emotional support during this journey, I am privileged to be part of the vibrant movement that is bringing about positive change and social justice.

I would like to acknowledge my parents, siblings and friends for being such a reliable support system during this journey. This journey has taught me to ask for help and I am indeed very blessed to have been able to count on you always, my life is all the richer and more meaningful because you are in it! I surely would not have completed this without your constant encouragement, love and affirmation.

Finally I'd like to thank Mr. Erastus Ngaruka of Agri bank and Mr. Piet Williams of the Oshakati Pharmacy Group of Companies all for granting me access to their farmer networks, and to every participant that took time to respond to the surveys that enabled me to obtain the data I needed to conduct this research.

ABSTRACT

Background/Problem:
Agriculture is the primary livelihood for approximately 70% of Namibia's population and accounts for 20% of national employment. However, its contribution to GDP remains disproportionately low at only 5%. Despite its importance, there is limited empirical data on the role of entrepreneurial capital in enhancing small-scale farm performance, making it difficult to inform effective policy or guide resource allocation within the sector. In particular, the influence of specific dimensions of entrepreneurial capital -human, social, and financial- on farm performance outcomes such as revenues and yields remains unclear.

Purpose/Objectives:
This study aims to investigate the influence of entrepreneurial capital—specifically human, social, and financial capital—on small-scale farm performance in Namibia. Grounded in Resource-Based Theory, the Sustainable Livelihoods Framework, and the Community Capitals Framework, the research seeks to test the hypothesis that each of these capital dimensions positively affects farm revenues and production yields.

Methodology:
A non-experimental, cross-sectional quantitative design was employed. Structured questionnaires were distributed online via Qualtrics to 1,050 purposively selected small-scale farmers across Namibia's 14 regions, using networks from the Namibia Agronomic Board and other agricultural associations. Data were analysed using SPSS, with sampling adequacy tested using the KMO Bartlett's test. Exploratory factor analysis (EFA) with principal axis factoring and Promax rotation was used to validate constructs. Financial capital failed to meet factor loading thresholds and was excluded from further analysis. Reliability was confirmed using Cronbach's alpha, and composite scores were created for each variable. Assumption testing preceded regression analysis to test the hypothesized relationships.

Results:
The findings indicate that human capital had a negative, statistically insignificant effect on both farm revenues and yields. Social capital showed a positive, significant influence on farm revenues but an insignificant effect on yields. Financial capital could not be included in the final regression due to insufficient factor convergence during validation.

Implications/Future Research:

These findings suggest that social networks and relationships may be more critical to revenue generation than technical or educational inputs alone. Future research should consider disaggregating the capital dimensions into sub-categories to uncover more nuanced relationships. Moreover, a larger, more diverse sample may enhance generalizability and clarify marginally significant findings.

Keywords:
Entrepreneurial capital, small-scale farms, Namibia agriculture, farm performance, human capital, social capital, sustainable livelihoods, resource-based theory, quantitative research, regression analysis

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1. CHAPTER 1: INTRODUCTION

1.1 Introduction

Entrepreneurship has been endorsed as a significant potential employment creator in many developing countries, while agriculture is one of the biggest employers on the African continent (Wale et al., 2021). Agriculture is Africa's biggest source of livelihood (accounting for 70% of sustenance), however, given that it assumes a very subsistence existence with very little attention paid to its economic and value addition potential, it was previously sidelined in many development agendas only to be reconsidered in recent years (Wiggins, 2014). Before agricultural entrepreneurship can be endorsed as the ultimate solution to unemployment on the African continent, however; it is important to gain an appreciation for the organisational structures of agricultural entrepreneurial ventures on the continent (Otchia, 2019). Given that majority of the rapid emergence of agricultural ventures on the continent are in pursuit of survival with very low scores on the dimensions of entrepreneurial orientation (EO), they have low prospects of growth beyond the founder (Wale et al., 2021).

The industrialisation which came because of colonialism in Africa led to the development of logistical infrastructure such as roads, railways and ports that enabled the transportation of goods from Africa to Europe. For the agricultural sector, these were crops such as cocoa, palm oil and groundnuts which were hardly grown in Europe. The newly created market that emerged as a result of the linkages created by the transportation infrastructure placed demand on the production of these export crops which pressured production to extend to unused land as farmers seized the market opportunities created by this demand (Wiggins, 2014).

The economic depression of the 1900s as well as the emergence of concerns of sustainable agricultural practices in production resulted in a reduction in the demand for the export crops. Environmental concerns came about because of the increased demand for export crops, that then led the locals into clearing away more vegetation to make room for production land which caused environmental degradation (Wiggins, 2014). Another contributor to the slowdown of agricultural production is the fact that much of the staple crops that were produced (such as sorghum, millet, cassava and yam) were not popular in the export community (Raheem et al., 2021).

Trade and export production was further discouraged by the inflated exchange rates which put producers at a disadvantage given that the cost of importing production inputs was higher compared to the corresponding selling value of the produced goods owing to the weakened African currencies (Wiggins, 2014).

Africa is currently faced with the challenge of a rapidly increasing population threatened by food insecurity and unemployment which is similar to what plagued Asia in the 1960s. Asia's green revolution which entailed the adoption of science to formulate high-yield crop varieties, investment in infrastructure in the form of road networks and irrigation facilities, innovative research and restructuring of policies enabled them to experience a turn of fate and reduce food shortages (Wiggins, 2014), and has managed to reduce its poverty levels from over 80% in 1978 to less than 10% through its agricultural sector (Dzingirai, 2021).

1.2 Research Aim

This study aims to establish the relationship between farm performance and entrepreneurial capital in Namibia's agricultural entrepreneurship sector at small-scale farm level. The study observes the impact of these of the dimensions of entrepreneurial capital namely financial capital, human capital and social capital on farm performance in terms of their impact on production yields and farm revenues by empirically testing a set of hypotheses administered to a proportionally representative sample of small-scale farmers across the 13 regions of Namibia. The findings are then analysed and interpreted using statistical tools and the results presented and discussed after which recommendations and suggestions for (Raheem et al., 2021) areas of future research are made.

1.3 Background of Study

1.3.1 Namibian Country profile

Situated on the African South-West coast, Namibia is one of the most sparsely populated countries on the African continent and the driest in Sub Saharan Africa (Amukuhu, 2020). The country boasts an area of 824.800km^2 and a population size of 2.5million people.

Despite its aridity, over 70% of the country's population relies on the agricultural sector for sustenance (Raheem et al., 2021). Small-scale agriculture occupies 30.4% of the country's total land area (Shikangalah & Mapani, 2020).

Table 1: Country profile

Country	Namibia
Geographic location	South-West Africa
Geographic size	824,292km^2
Population	2.5 million
Population density per km^2	2.7
Economic classification	Upper Middle-income country
Genie Coefficient	0.58
Currency	Namibian Dollar (NAD)

Source: World Food Program Country Report (2022)

Although classified as an upper middle-income country, Namibia continues to face severe growth challenges (WFP, 2022). The economic rankings often give a distorted reflection of the actual quality of life of the inhabitants as they can be distorted averages in cases where high inequality is prevalent (WFP, 2022).

Contrary to many African economies such as Mali where the agricultural sector contributes between 40-45% to GDP (Konté et al., 2019); Namibia's agriculture sector only contributes 5% to the economy's GDP owing to the fact that it is the most arid country in Sub Saharan Africa. However, similar to most African countries like Malawi, 70% of the Namibian population depends on the sector for food security and the sector is responsible for 20% of the employment created (Raheem et al., 2021). This wide gap in contribution to GDP versus the dependency on the can be attributed to the high prevalence of subsistence of farming in the country (GIZ, 2020) .

Farming activity in Namibia is classified into two groups, namely subsistence and commercial farming. Commercial farming activity occupies 44% of total land and belongs to only 10% of the population; while subsistence farming occupies 41% of the total land (communal) and caters to 60% of the population (GIZ, 2020). Commercial farming captures the most significant income portion of the sector with access to high-quality inputs and access to both the local and international retail market for the products, while subsistence farming which is characterized by informal agriculture with low income activity that is heavily dependent on rain, has limited

access to good quality seed and is heavily susceptible to climate change effects such as drought and flooding (GIZ, 2020).

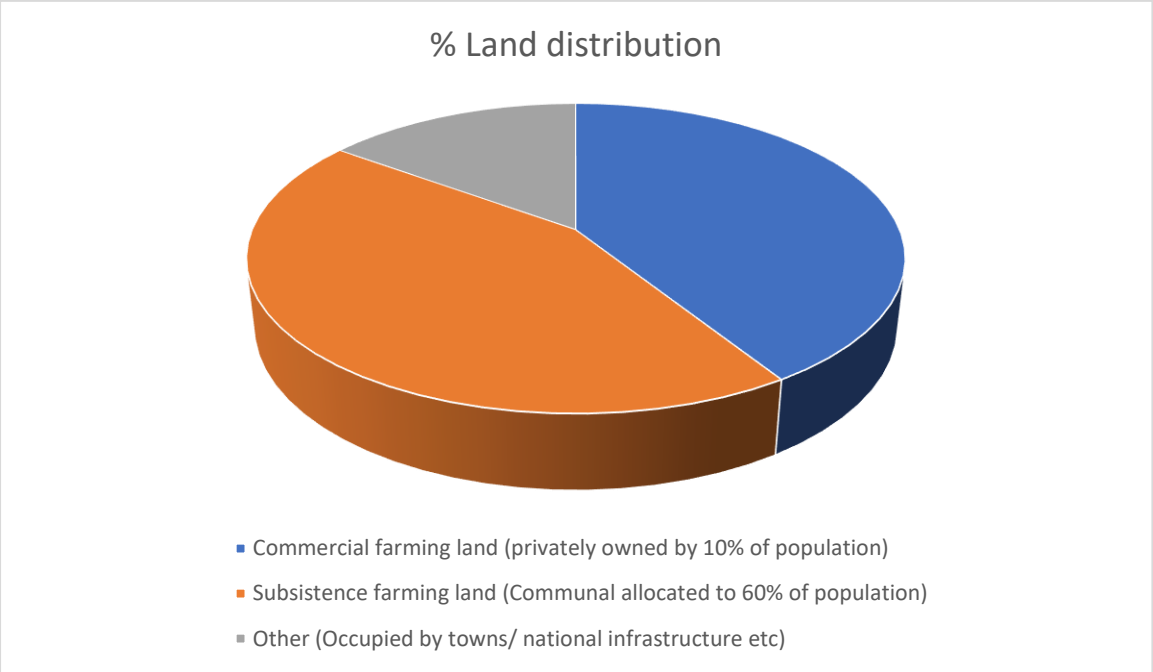


Figure 1: % Land distribution

Source: (Author's own)

1.3.2 Food insecurity

In recent years, owing to the country's arid climate further exacerbated by the effects of climate change such as drought and flooding, the effects of the Covid-19 pandemic and the price shocks from various phenomena around the world, the country has been faced with increasing rate of food insecurity (IPC, 2021). The reliance of subsistence farmers on rain, which was severely disrupted by drought in 2019, has increased the country's levels of food insecurity and placed significant portion of the population on the state for relief (WFP, 2022). These phenomena have resulted in the country being ranked 78th out of 121 countries in the 2023 global hunger index.

The IPC Acute food insecurity analysis report (2021) presented the results of on a study done on 659,000 people (26% of population) between October 2021 and March 2022 and another on 750,000 people in different parts of the country. The findings were extrapolated to the country's total population and revealed that the levels of insecurity are expected to keep rising with the number of people in emergency status increasing at an alarming rate. The table below shows the extrapolation of these findings to the country's total population.

Table 2: Food Security Ranking

	October-November 2021	December 2021 – March 2022	April – June 2024
Phase 1: People food secure	996,000	964,000	885, 000
Phase 2: People stressed about their food security	896,000	836,000	934,000
Phase 3: People in food security crisis	557,000	632,000	1,169,000
Phase 4: People in Emergency	102,000	119,000	34,000
Phase 5: People in Catastrophe/Famine	0	0	0

Source: IPC Acute Food Insecurity analysis (2021 & 2024)

Owing to these national concerns, the government alongside private sector and non-governmental organizations have embarked on several interventions to aid food production in the country to reduce dependence on the state (WFP, 2022). Various training programmes were offered to subsistence farmers and other aspiring farmers to encourage venturing in to small-scale commercial farming as a sustainable intervention to the food insecurity crisis ((GIZ), 2020). Institutions such as GIZ and the World Food Programme rolled-out initiatives such as the Farming for Resilience programme in which farmers are taught skills on horticulture crop production and value addition as well as market access techniques in order to grow their operations and participate in the formal economy (WFP, 2023). These initiatives target the shortages of food supplies on the market to counter price shocks, the reduction of food waste trough value addition to ensure its reduced contribution to food insecurity ((GIZ), 2020).

1.4 Problem Statement

Despite the country having experienced an increase in the amount of farming land allocated through the introduction of green schemes, the increase in commercial farms and the advent of small-scale farms in communal land areas; the observed gap between the demand and supply of food produce within the country and its exports remains a cause for great concern (WFP, 2023). Namibia is confronted with finding solutions to the agricultural productivity challenge stemming from the sprawling of agricultural production land areas with no corresponding

yields/ outputs to match this expansion (Fortunato & Valdivia, 2023). Failing to address the said challenge will perpetuate the continued uptake of land by the agricultural sector for food production with very low yields per unit area which further leads to environmental degradation and unsustainable agricultural practices (Bignotti et al., 2021).

The rural communal areas in which most small-scale farmers are found, were established to have the highest potential output yields given the suitability of these areas' conditions for agricultural activity (FAOSTAT, 2022). Despite the potential inherent in these naturally agricultural suited areas, there is limited data available on the drivers of production productivity especially within the Namibian small-scale farming sector (Fortunato & Valdivia, 2023).

Entrepreneurial practices continue to be deemed as key attributes to improved performance in ventures of various forms in that it revolves around individuals and their ability to identify, create and exploit opportunities towards economic advancement (Kavari, 2016). There are a variety of factors the impact the level of entrepreneurial attributes observed in various individuals as well as their resulting spillover impact on the performance of the ventures they own or work for (Konté et al., 2019). With the rising focus on entrepreneurship and its potential to influence the growth of emerging economies for good (Rafael, 2023), the pivotal contribution of the agricultural sector to employment creation and food security as well as the potential inherent in small-scale farming in Namibia by virtue of their location in the most naturally occurring agriculturally suitable areas; an inquiry is launched into the influence that aspects of these phenomena on performance.

There is a need to determine the extent and direction of the influence of various aspects of entrepreneurship on small-scale farm performance to provide insights into the areas of investment that can contribute towards the attainment of the desired levels of economic growth. Observing the variance in agricultural performance in various countries and sub-sectors even though in the same geographic region owing to factors such as environmental conditions, the structural make-up of the industry in a specific region and resource availability (Fortunato & Valdivia, 2023); there is a need to establish country and sub-sector specific performance influences to come up with tailored solutions that improve productivity. This study therefore seeks establish the influence of entrepreneurial capital on small-scale farm performance in Namibia to avoid the adoption of unimpactful and costly blanket solutions to the productivity challenges faced by this sub-sector, which do not realize the desired tangible improvements in productivity and performance.

1.5 Research Questions and Objectives

The study therefore seeks to investigate the influence of entrepreneurial capital on farm performance (in terms of production yields and revenues) of small-scale farmers in the 14 regions of Namibia.

Research Questions:

1. What influence does human capital have on farm revenues?
2. What influence does social capital have on farm revenues?
3. What influence does human capital have on production yields?
4. What influence does social capital have on production yields?
5. What influence does financial capital have on production yields?
6. What influence does financial capital have on farm revenues?

The objectives of this research are:

1. To investigate the influence of human capital on farm revenues
2. To investigate the influence of social capital on farm revenues.
3. To assess the influence of human capital on farm production yields.
4. To assess the influence of social capital on farm production yields.
5. To investigate the influence of financial capital on farm revenues.
6. To investigate the influence of financial capital on farm production yields.

Based on the set objectives above, for this study there are two dependent variables namely production yields and farm revenues which are used to measure farm performance; and three independent variables, human capital, social capital and financial capital which are measures of Entrepreneurial capital.

1.6 Relevance of the research

To attain the set sustainable development goals (SDGs), it is pertinent that policies are crafted to prioritize an increase in investments in the sectors that contribute to the eradication of hunger and poverty (FAO, 2020; Fiedler, 2020). In efforts to attain zero hunger, it is crucial to identify and tackle the forces behind high costs of nutritional foods within our production chains. This can be done through the adoption of policies that create synergies within food production chains and support small scale producers in ways that enable them to get products to market at

the least cost possible translating in lower prices to consumers and therefore increased access to nutritious food. This can be by way of value addition This creates an inclusive food system that speaks to the needs of both the under-resourced small-scale producers and the low-income consumers whose struggle to afford nutritious diets (FAO, 2020). Given the agricultural sector's intersection with rural development and the agenda towards reducing poverty; it has become the most viable sector for investment to address hunger and poverty.

Namibia's agricultural sector is essential for rural livelihoods and national food security, with small-scale farmers forming the backbone of this system. However, despite government and donor support through initiatives like Green Scheme projects, smallholder productivity and profitability remain limited. Several recent studies have attempted to understand this problem. An examination of the entrepreneurial activity of 42 small-scale farmers at the Etunda Green Scheme, identified factors such as access to finance, infrastructure, education, and market support as key influencers of entrepreneurial action (Neema & Kalitanyi, 2023).

Similarly, Thomas (2020) focused on institutional arrangements in smallholder vegetable farming and found that lack of secure water rights, high transaction costs, and inadequate public–private partnerships hinder effective market engagement. While these studies provide useful insights into enabling and constraining factors for entrepreneurship, they do not go far enough to examine how different forms of entrepreneurial capital—such as human capital (skills and training), social capital (networks and relationships), and financial capital (access to credit and resources)—combine to affect actual farm performance outcomes like productivity, profitability, or market orientation.

On a broader level, global literature supports the view that entrepreneurial capacity can be a transformative factor for smallholder agriculture. A systematic review conducted confirmed that small-scale farmers in developing countries face recurring challenges, including low financial access, weak social networks, and limited skills, all of which constrain entrepreneurial growth (Dias et al., 2021). However, most international studies remain generic, and empirical research specific to the Namibian context is lacking. Moreover, few studies take a holistic view of entrepreneurial capital or empirically measure its direct influence on performance indicators among smallholders. This presents a critical knowledge gap that this study aims to address.

This research is thus highly relevant and timely. It builds on existing work by integrating the dimensions of entrepreneurial capital and empirically assessing their impact on small-scale farm performance in Namibia. It shifts the focus from merely identifying barriers to

understanding how combinations of capital assets influence productivity, resilience, and market participation. In doing so, it offers actionable insights that can inform national agricultural policy, rural development strategies, and targeted support programs. The study also complements Namibia's Vision 2030 goals by promoting inclusive and sustainable agricultural development driven by entrepreneurial capacity.

1.7 Delimitations

The study was confined to small-scale farmers farming for profit and will exclude subsistence-only producers and larger commercial operations. Only farmers active in the last five growing seasons (2019–2024) will be included to ensure data relevance, and performance will be measured via established scale indicators for the variables thereby reducing bias.

1.8 Conclusion

This research seeks to investigate how entrepreneurial capital influences the performance of small-scale farms within Namibia's agricultural sector. By anchoring the research on the Sustainable Livelihoods Framework (SLF), the Community Capitals Framework (CCF), and Resource-Based Theory (RBT), the study adopts an integrated approach to understanding the dynamic interplay between internal and external resources, community assets, and individual capabilities that shape entrepreneurial outcomes. These theoretical frameworks collectively offer a robust lens through which to analyse how different forms of capital -human, social, financial, natural, and physical- are mobilized and transformed into sustainable farm performance. This investigation not only contributes to scholarly discourse but also offers practical insights for policymakers, development practitioners, and agripreneurs striving to strengthen the resilience and productivity of Namibia's smallholder farming systems.

This section of the study highlighted the significance of the relationship between agriculture and entrepreneurship and the ensuing need to leverage attributes from entrepreneurship to boost performance in the agricultural sector. It further went on to give a background to the study and a profile of Namibia as the geographic context in which the study will be conducted. The problem statement, research objectives and relevance of the study were outlined to be analysed in subsequent chapters.

2. CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This section will cover the extant research on entrepreneurship and agriculture, particularly within Namibia's small-scale farming sector. It investigates relationship between entrepreneurial capital and farm performance in Namibia's small scale farm sector using the sustainable livelihoods theoretical framework and the community capitals theory. The stated theories form the theoretical underpinnings explored in this study to gain insight into existing literature and set the scene for inquiry into variables of focus of this study in terms of the influence of entrepreneurial capital on small-scale farm performance in Namibia. It will further review existing measures that are in place to enhance farm performance and how these relate to various entrepreneurship theory perspectives, models and inform the formulation of hypotheses for the study.

2.2 Theoretical underpinning

This study is theoretically grounded in two well-established frameworks: the resource-based theory, the sustainable livelihoods framework (SLF) and the community capitals framework (CCF). The SLF, developed by Scoones (1998), highlights that rural livelihoods depend on the interplay between five forms of capital -human, social, financial, physical, and natural. This framework suggests that the ability of small-scale farmers to increase productivity and revenues hinges on their access to and use of these capitals. Complementing this, the CCF developed by Flora and Flora (2006) emphasizes the synergistic role of different capital forms, asserting that no single form is sufficient on its own to drive long-term development. Both frameworks align with the conceptualization of entrepreneurial capital- a composite of human, social, and financial capital- as critical to improving the performance of small-scale farmers in developing economies such as Namibia.

2.3 An analysis of the agricultural sector

The agricultural sector makes up between 20-60% of GDP and is responsible for 54% of employment created on the continent. It is the source of livelihood for over 70% of families in rural communities (Bahta & Mbai, 2023). Through its contribution to these pillars of society,

the sector significantly contributes to regulating the cost of food and boosting economic activity through the jobs created (Rafael, 2023). Despite the significant contributions of the agricultural sector to the Sub Saharan economy and having some of the largest sizes of arable land; the continent remains a net importer of food with 85% of food with an estimated value of USD 35 billion having been imported between the years 2016 and 2018 (Raheem et al., 2021).

African agricultural entrepreneurship research remains limited although the agricultural sector accounts for a significant proportion of Africa's GDP, creates employment, and has the greatest potential to solve the rising global food insecurity crisis (Fiedler, 2020; Rafael, 2023). Agricultural entrepreneurship scholarship within the African context remains largely unexplored, making it difficult to formulate context-specific frameworks that can be implemented to inform decision-making that is fit-for-purpose and relevant to the cultural, economic and social landscapes of Africa (Bignotti et al., 2021).

Raheem et. al (2021), indicated that to improve food security on the continent, it is critical to capacitate small-holder farmers and improve the agricultural equipment used in production and further recommended leveraging technology and Africa's rising youth bulb to advance agricultural technologies, markets and financial sectors. Furthermore, the affinity of youth towards technology and digitalization can be seized to attract innovative and solution driven human capital to the African agricultural sector to drive efficiency across the entire value chain (Raheem et al., 2021). To achieve the envisaged sustainable food systems and food security; investments should be made to achieve food production and agro-processing levels that match the rate of global population growth. With the average farmer age in Africa being 60 years, concerns about shortages in farmers may arise in future if no interventions are made to attract youth to agriculture. This can be done through the introduction of policies and strategies that change youth perspectives on the sector and its prospects. Literature suggests that investment in youth and encouraging their participation in agricultural production and value addition activities is key to building sustainable food systems due to the high productive energy levels inherent in youth (Fiedler, 2020).

Contrary to majority of the African economies, Namibia's agriculture sector only contributes 5% to the economy's GDP because it is the most arid country in Sub Saharan Africa. However, common to other African countries such as Kenya, Uganda and Zimbabwe; 70% of the Namibian population depends on the sector for livelihoods and the sector is responsible for 20% of the employment created (Raheem et al., 2021).

For this study, entrepreneurship is defined as the enquiry into the origin of opportunities, their identification, assessment and pursuit; as well as the individuals who identify, asses and pursue these opportunities that result in the increase of value through new goods, services and/ processes (Shane & Venkataraman, 2000). Agricultural entrepreneurship is defined as the development of new products, services and innovations along the agricultural production chain that result in an increase of value, whether financial, social or environmental, accruing to its the stakeholders (Dias et al., 2019); and agricultural sustainability refers to the production of food through practices that are favourable to both people, profits and the planet (Bignotti et al., 2021).

The low levels of entrepreneurial orientation inherent in the bulk of Africa's smallholder farming practices (Wale et al., 2021), however; poses a limitation to achieving the desired levels of sustainable employment created by this sector and its appeal to the rapidly-increasing African youth population (Geza et al., 2021). At individual level, smallholder farmers have been found to portray high risk-averseness; external locus of control and low entrepreneurial self-efficacy (Wale et al., 2021);

The key human capital element in agripreneurship (agricultural entrepreneurship) are in the form of extension support services in the form of onsite training as it focuses on providing practical skills that enhance performance.

2.4 Entrepreneurial Capital

Entrepreneurial capital has been identified as a key aspect in accomplishing performance in small businesses and can be defined as the financial and non-financial resources engaged in the daily course of business to create wealth for an enterprise (Firkin & North., 2001; Rafael, 2023). This study focuses on three forms of entrepreneurial capital namely financial (economic), social and human capital in small scale farms in Namibia and how these influence performance in terms of production output (yields) and revenues (Urban & Mutendadzamera, 2022). These types of entrepreneurial capital are crucial to the success of enterprises and are planted within social systems and structures which densely influence the success of their operations (Urban & Mutendadzamera, 2022). In the pursuit to understand entrepreneurship holistically, the multi-theory approach becomes useful in that it allows for the combined integration of theories to explain how entrepreneurs leverage non-conventional means (in the absence of resources) to build ventures (Marvel et al., 2016).

This study is underpinned by the sustainable livelihoods, the community capital and resource-based theories at whose intersection lies the concept that entrepreneurial capital -encompassing human, social, and financial assets- serves as a strategic and contextually grounded resource base that enables small-scale farmers to achieve sustainable competitive advantage and improved livelihood outcomes (Hameed et al., 2021; Keefe, 2006; Scoones, 1998). Social, financial and human capital significantly impact entrepreneurial success as these factors influence each other which in turn further influence the economic growth of ventures (Prasetyo et al., 2020). The sustainable livelihoods and the community capital theories emphasize the interconnectedness of capitals (Keefe, 2006; Scoones, 1998). For instance, social capital can improve access to financial resources (e.g., through group lending or cooperatives), while human capital enhances the farmer's capacity to make informed decisions about how to deploy both financial and social resources effectively. This integrated perspective highlights that improvements in one form of capital may amplify the impact of others. The knowledge-based-view premises that knowledge is a valuable resource to the firm and its proper application within the venture increases its competitiveness and productivity (Nguyen, 2016).

2.4.1 Human Capital

Human capital refers to the value-adding benefit inherent in people in the form of knowledge, skills and experience that positively impacts the systems and structures of a firm's operations (Navaneethakrishnan, 2019). Human capital has been identified as relevant to entrepreneurship in that it is a key starting point for opportunity ideation, creation and utilization within the entrepreneurial process (Marvel et al., 2016). Exceptional human capital has been regarded as a key role player in encouraging the pursuit of entrepreneurial opportunities aligned with attaining sustained economic growth in emerging economies as improvement in the quality of human resource results in increase in performance (Prasetyo & Kistanti, 2020).

According to Marvel (2016), constructs such as opportunity formation, recognition and exploitation become crucial in the study of human capital as these leverage the entrepreneur and/ or team's ability to identify opportunities from gaps in the market, to capitalize on technological advancements and leverage these to disrupt status quo by providing increased efficiencies at lower costs. Human Capital supports that knowledge, skills and experience heightens an entrepreneur's cognitive aptitude resulting in increased productivity and efficiency in recognizing and exploiting opportunities (Davidsson & Honig, 2003; Hameed et al., 2021). Although the attainment of knowledge is often linked to having a positive influence

on venture performance, it can also lead to increased risk aversity which can discourage entrepreneurial venturing (Davidsson & Honig, 2003). Literature shows that different types of learnings are useful to specific phases within the entrepreneurial process (Davidsson & Honig, 2003).

Studies across sub-Saharan Africa demonstrate that farmers with higher education levels or access to training are more likely to adopt improved farming practices, increase technical efficiency, and boost both yields and incomes. For example, Jimi et al. (2020) found that rice farmers who participated in structured field schools in Southeast Asia achieved significantly higher revenues and productivity. Similarly, Djomo and Sikod (2012) reported that in Cameroon, each additional year of education significantly reduced inefficiency and increased output. These findings are corroborated by recent literature showing that knowledge-intensive interventions enhance both the profitability and sustainability of smallholder farming systems (Ahmad, 2025). Therefore, the following hypotheses are proposed:

H_1: Human capital positively influences farm revenues.
H_3: Human capital positively influences production yields.

2.4.2 Entrepreneurial Social Capital

Social capital refers to the combined resources that are leveraged through the entrepreneur's social networks (Oh, 2000). These network ties can be described as part of the intangible investments that improves the economic efficiency and productivity of a firm, sector or overall national economy (Zugravu-Soilita et al., 2021). The primary source of such capital stems from immediate relations within the entrepreneur's community such as family and friends; it then further extends to the potential ties one has access to by virtue of being part of certain associations and networks. Within the social capital theory, distinction is made between strong ties which refer to kinship relations which can give an entrepreneur access to resources and support; as well as weak ties which refer to institutional associations and memberships which offer access to data and market intel that would otherwise be costly or entirely inaccessible to the entrepreneur (Urban, 2019). In developing economies, social ties play a significant role in making up for the inefficiencies that stem from defective or weak institutional systems and structures (Urban & Mutendadzamera, 2022).

Social capital operates as a way of structuring and organizing relationships within networks which allows for leveraging these ties to reduce costs of doing business, provide access to associations for knowledge and skills sharing that enables opportunity recognition and accrual of value for the enterprising firm (Urban & Mutendadzamera, 2022). The interactions that stem from networking allow for the obtaining of data that informs decisions on which opportunities to exploit and which alliances to form in order to achieve business objectives (Urban, 2019). The concept of social capital may however be used unethically as a guise for gatekeeping to fuel seclusive practices that lead to the unethical exploitation of exclusive networks (Urban & Mutendadzamera, 2022). In the African context, strong community and family relations that are tied to philosophies such as Ubuntu, become source of support and access to resources for entrepreneurs and their ventures in their local geographies which positively impacts performance (Urban, 2019). Social capital has been found to play a substantial role in the creation of sustained wealth within communities and firms.

Smallholder farmers with stronger bonding and bridging networks have shown improved farming practices and livelihoods in Ghana (Tengapoe et al., 2024). In Nigeria's maize and cocoa sectors, higher social capital correlates with increased technical efficiency and food security through pooled labour, pooled financing, and shared knowledge (Agriculture & Food Security, 2023; PMC, 2021).

In a study of smallholder farmers in Ghana, Tengapoe et al., (2024), found that social cohesion and trust significantly improved the adoption of agricultural technologies. In Nigeria, Onuoko et al. (2023) demonstrated that maize farmers embedded in cooperative networks recorded higher efficiency and incomes than their isolated counterparts. Likewise, Taiwo and Adekunle (2021) found that cocoa farmers with strong social capital achieved better productivity and food security outcomes. These empirical findings support the following hypotheses:

H_2: Social capital positively influences farm revenues.
H_4: Social capital positively influences production yields.

2.4.3 Financial Capital

This form of capital covers the resources that can easily be converted into monetary currency. Access to capital is of particular importance to small firms as this enables them to obtain the assets (tangible and non-tangible) necessary for conducting and realizing value-creating business objectives (Urban & Ratsimanetrimanana, 2019). Financial capital closely links to

reputational capital given that besides personal financial capital, access to credit or investor funding for a venture depends heavily on how well the entrepreneur has established themselves to be trustworthy enough to expend the funds as they have outlined and secondly to remain committed to creating the value due to investors as promised (Loss & Renucci, 2013). According to Urban & Ratsimanetrimanana (2019), the ability to obtain financial services and the policies in place to enhance access to finance such as lending rates and programmes that stimulate financial education in firms positively influence firm performance.

Financial capital at small-scale farmig level is deemed to be crucial owing to the fact that unlike other industries, the producers need to own majority of the equipment used in production (Wilcox, 1943). Farmer's access to financial resources is critical to the attainment of the technology and mechanical infrastructure and tools necessary for increasing output and to expand their business to new markets (Fortunato & Valdivia, 2023). Having access to finance is also critical for assisting in countering the exposure of farmers to the effects of climate change, adverse weather conditions and and the uncertainty of output yields.

The study of microenterprises in Bangladesh by Jimi et al., (2020) revealed that credit access increased agricultural yields by around 14%, mainly through improvements in input use and technical efficiency. Similarly, broader literature suggests that investment in fertilizer, seeds, irrigation, and equipment -enabled by access to finance- leads to substantial gains in both yield and revenue (Ahmad, 2025). Therefore, the following hypotheses are formulated:

H_5 - Financial capital positively influences production yields.
H_6 - Financial capital positively influences farm revenues.

2.5 Agricultural Performance Measures

Agricultural performance can be in reference to the output for subsistence and commercial farming, however the output for subsistence farming may be challenging to measure as there are hardly specific records except for general observation for conditions such as drought, flooding and pest infestations to inform government intervention to sustain livelihoods ((GIZ), 2020; Wiggins, 2014). For crop farming, output is measured in terms of yield per unit area and the quality/grading of the produce while for livestock this can be the reproduction rate of the livestock being kept (yield) and the quality of breed (Wiggins, 2014).

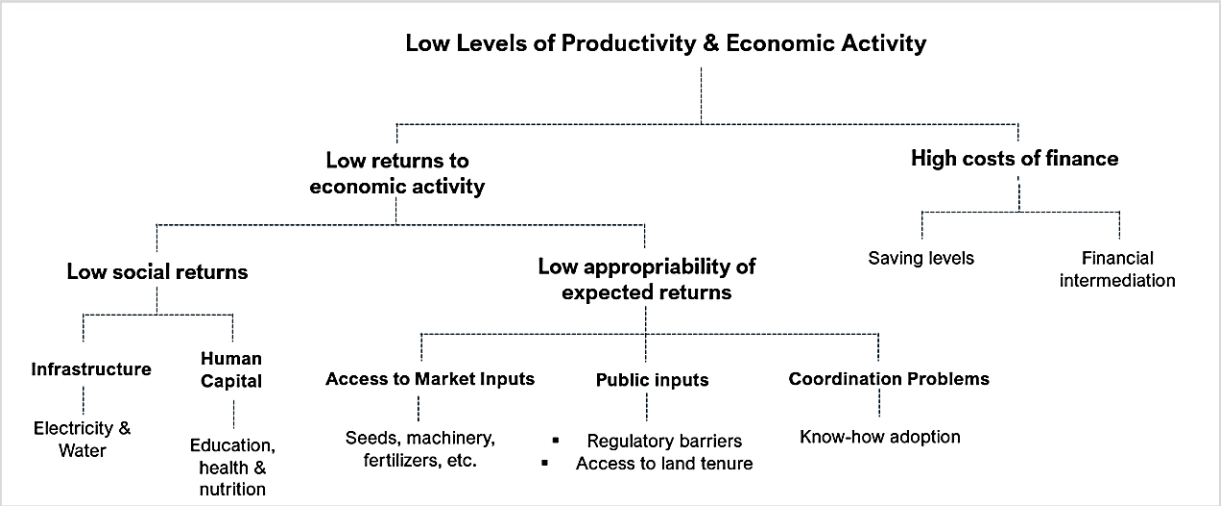


Figure 2: Factors affecting productivity and economic performance in agriculture

Source: (Fortunato & Valdivia, 2023)

Figure 2 above shows the factors that contribute to low performance in the agricultural sector. Limited availability of basic input resources such as water and electricity as well as access to empowered human resources capable of providing the required level of skill and efficiency required to meet the desired levels of productivity. Furthermore, it highlights high cost of financing as an impeding limitation to productivity as it deters farmers from seeking the financial capital necessary for increasing unit yields and overall production. Regulatory barriers, access to market as well as poor coordination are some of the social capital factors limiting production performance.

However, despite these well-established theoretical and empirical foundations, limited studies have quantitatively examined how entrepreneurial capital affects small-scale farm performance in Namibia specifically. Thus, this research fills a crucial gap by empirically testing the six hypotheses deduced from literature in t the Namibian agricultural context, using data from small-scale farmers.

2.6 Theoretical Framework

2.6.1 Research hypotheses

Table 3: Research Hypotheses

Problem	Hypothesis
1. Determine the influence of human capital on farm performance in terms of farm revenues	H1 Human capital positively influences farm revenues
2. Determine the influence of social capital on farm performance in terms of farm revenues	H2 Social capital positively influences farm revenues
3. Determine the influence of human capital on farm performance in terms of production yields	H3 Human capital positively influences production yields
4. Determine the influence of social capital on farm performance in terms of production yields	H4 Social capital positively influences production yields
5. Determine the influence of financial capital on farm performance in terms of farm revenues	H5 Financial capital positively influences production yields
6. Determine the influence of financial capital on farm performance in terms of production yields	H6 Financial capital positively influences farm revenues

2.6.2 Conceptual framework

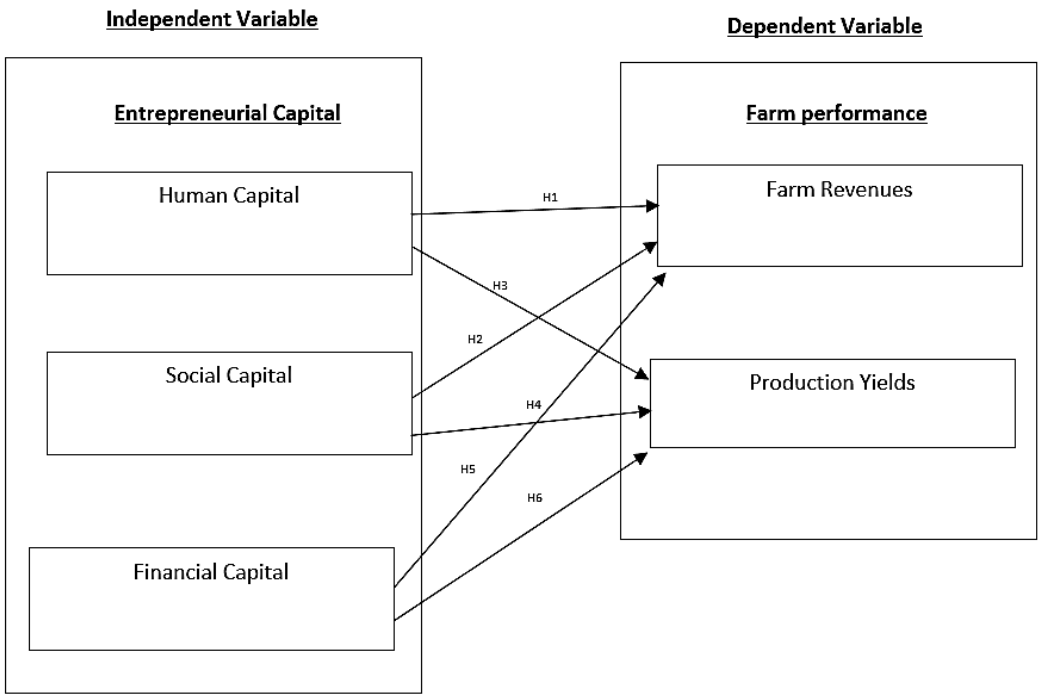


Figure 3: Research conceptual framework

(Fortunato & Valdivia, 2023; Kozlinska et al., 2023; Prasetyo et al., 2020; Ratsimanetrimanana, 2019)

2.7 Conclusion

In summary, the literature highlights the critical role of entrepreneurial capital -comprising human, social, and financial capital- in enhancing innovation, resilience, and performance in small-scale agriculture. These insights form the foundation for the study's hypotheses, which posit that higher levels of entrepreneurial capital positively influence farm productivity and sustainability. However, existing research often focuses on large-scale operations or generalized contexts, with limited exploration of how these dynamics unfold within Namibia's unique socio-economic and environmental landscape. This gap underscores the need for a localized, theory-driven investigation to better understand how entrepreneurial capital can be leveraged to improve smallholder farm performance in Namibia's agricultural sector.

3. CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter describes the research process that was undertaken for this study. It delineates the research paradigm (philosophical lens) and perspective in which the study is positioned (Ratsimanetrimanana, 2019). It further outlines the approach used to develop theoretical framework of the study; the population size; method of sampling, the type of research instrument, data collection method, means of data analysis and inference of results as well as the limitations of the study.

3.2 Research approach

This research aimed to empirically test for the influence of entrepreneurial capital on farm performance for small-scale farmers in Namibia. In comparing methodological approaches, this study adopts a quantitative, cross-sectional design, which offers the advantage of capturing a snapshot of entrepreneurial capital and farm performance at a specific point in time. While a longitudinal or mixed-methods approach could provide deeper insights into causal relationships and contextual narratives, resource and time constraints make a cross-sectional survey more practical for this stage of research. The findings of this research can however lay the groundwork for future longitudinal studies.

A quantitative approach was adopted and embarked upon by empirically testing the set hypothesis as derived from extant literature and compared it with the outcome from the sample. This research is posited within the positivist ontological paradigm. This follows the school of thought that the truth is objective (backed by supporting theory) and can be scientifically measured (Antwi & Hamza, 2015). The results from the findings therefore used to inform the decision on whether to reject or fail to reject the hypotheses.

Purposive sampling is a type of non-probability sampling that entails the researcher using their judgement to choose subjects that will be most useful to the study. This approach makes the research particularly more credible as it allows the researcher to only include subjects that will provide responses that are useful to research. Purposive sampling was chosen to deliberately target small-scale farmers actively engaged in entrepreneurial activities, ensuring that

respondents possess relevant experience with the variables under investigation. This approach offers greater depth than random sampling in contexts where the study population is heterogeneous and specific expertise is needed (Bignotti et al., 2021; Illyas, 2018). To ensure measurement validity, established scales were adapted and pilot-tested, with Cronbach's alpha used to assess internal consistency and scale reliability. Missing data was handled using listwise deletion where responses were incomplete beyond acceptable thresholds, and imputation techniques were applied where feasible to retain statistical power without compromising data integrity.

While methodological limitations exist -such as potential selection bias from purposive sampling, lack of longitudinal data, or inability to capture qualitative nuances- these are not viewed solely as constraints. Instead, they serve as learning opportunities for refining future research design, especially in tailoring methods to resource-limited environments. Acknowledging these challenges reflects the researcher's growth and adaptability and reinforces the importance of methodological transparency in building a solid foundation for follow-up studies in Namibia and similar agricultural contexts.

The quantitative method of data collection allows for the inclusion of many data points within a short period of time (Ratsimanetrimanana, 2019); and is based on the statistical analysis of the variables under evaluation (Illyas, 2018). The deductive nature of this approach started with the analysis of relevant theory from extant literature to formulate the hypothesis; data was then collected and tested and analysed to determine whether the results of the research align with the set hypothesis or not. The detachment from research subjects created improved chances of getting uninfluenced outcomes which are objective and reliable.

3.3 Research design

This research follows a correlational research design as according to Coach (2023), it assesses the influence of phenomena without manipulating/controlling the variables. This study assesses whether changes in entrepreneurial capital influence farm performance and in which direction (positive or negative). This design approach is better suited for research which measures influence, as the research objectives cannot be achieved by a descriptive research design. The study will be done on participants across a wide geographical context i.e. Namibia. Therefore, due to the ethical considerations and logistical limitations associated with administering alternative design methods which can be used to assess the influence of variables which is

experimental research design; (requiring additional ethical clearances and remote controls to permit the subjecting of participants to a controlled environment) the experimental design will not be practical for this study (Coach, 2023).

This research has limitations in terms of time, money, and capacity available to for conducting the research. It aims to evaluate the influence of entrepreneurial capital on small-scale farm performance and the study is conducted in the real world where the researcher cannot influence the subjects (Sinu, 2017); therefore, the use a non-experimental cross-sectional survey is used (Ratsimanetrimanana, 2019), in which a structured questionnaire is distributed to participants/ sample group through Qualtrics.

3.4 Population and sample

3.4.1 Population

The small-holder farmer population which is the focus of this study consists of the small-scale farmers in Namibia. Owing to a lack of a centralised and exhaustive national database of small-scale farmers, it is impractical for the study to access all the subjects with the attributes that the study focuses on. The population has therefore been narrowed to the small-scale farmers on the records of the Namibia Agronomic Board (NAB) and various farmers associations.

3.4.2 Sample

Sampling refers to the approach taken to extract a representative group of subjects that will form part of study from the population (Illyas, 2018). Furthermore, the researcher identified various small-scale farmer's association networks and databases through which they distributed the questionnaires as the sampling frame for the study.

The sample consisted of, amongst others; registered farmers on the Namibia Agronomic Board's (NAB) list of registered producers, members of the Agritalks and Etaka farmers networks. This sample carries sufficient representation of the population as it consists of more than 5000 small-scale producers from all 14 regions of the country. This sample will also enable a better and more specific measure of performance as it relates to the variables under investigation as the subjects are producing for market and not merely sustenance, this prior selection will contribute to a reduction in the amount incomplete surveys as subsistence farmers will not be able to respond to the questions on revenue performance.

Determining the sample size

Granted that obtaining data from the entire population cannot be attained, the study needed to have sufficient sample size that will yield a generalizable research outcome (Bignotti et al., 2021). The questionnaire was distributed to a sample population of 1050 and 104 responses were received for this questionnaire. This yielded a response rate of 9.9%. To ensure sample completeness, the data was cleaned by deleting incomplete responses that had more than 10% of questions unanswered. After this deletion, the sample reduced to 96. The remaining responses with missing values amounting to less than 10% were then replaced with the statical average to ensure a complete sample. This resulted in a final complete sample of 96 cases/ respondents which will be used to for this analysis.

To determine whether this sample size was sufficient to proceed with factor analysis; the Kaiser-Meyer-Olkin (KMO) method was used to determine sample adequacy. The cut-off for a reliable sample was set to a lower bound of 0.5 (Galawe, 2017).

3.5 Research instrument

A structured, self-administered questionnaire administered through Qualtrics was used to collect data. This allows for more objectivity in the data as there is no contact between the researcher and the respondent which could have resulted in a sort of bias. Dimensions of the dependent variables and independent variables, farm performance – in the form of production yields and farm revenues; and entrepreneurial capital – in the form of human capital, social capital and financial capital– were identified respectively. These were drawn from literature and established and tested scales for measuring these constructs were obtained for use in the questionnaire. These are:

Table 4: Source of research instrument scales

Scale	Source	Reliability Score
Social Capital	(Urban & Mutendadzamera, 2022)	0.772
Human Capital	(Mõtus et al., 2024)	0.725
Financial Capital	(Luc, 2018)	-
Production Yields	(Nauta & Kokaly, 2001; Ratsimanetrimanana, 2019)	0.734

Farming Business revenues	(Kazimoto, 2016)	0.861

The questionnaire was segmented into four sections; the first is where the respondent the details of the questionnaire were explained to the respondent, and they were given the option to consent to take the questionnaire or not. In which case if the respondent did not consent, they were immediately taken to the end of the questionnaire i.e. no data was gathered from them. The second part was demographics, and the third section focused on the independent variables i.e. human capital, social capital and financial capital, while the last section focused on the dependent variables i.e. performance in terms of production yields and in farm revenues. The questions associated with the measurement of the variables will be structured in the form of a 7-point Likert scale.

3.6 Data collection process

The data was collected through the distribution of an online survey to the emails of small-scale farmers registered with the Namibian Agronomic Board as provided on their website as well as the agriculture community WhatsApp groups as recommended by experts from Agribank, and Veterinary Pharmacists amongst others. This was accompanied by regular reminders to participants that allowed for sufficient responses to be obtained for a reliable analysis.

3.7 Validity and reliability

3.7.1 Construct validity

The data collected was tested for validity using the statistical software, SPSS. Internal validity was observed to assess the extent to which changes in the dependent variable are influenced by the independent variable (Sinu, 2017). Testing for external validity ascertained whether the designed research instrument accurately captures what it was intended to measure (Field, 2013; Illyas, 2018).

Validity testing was done using exploratory factor analysis to ascertain sampling adequacy. The Kaiser-Meyer-Olkin (KMO) greater than 0.5 for the sample to be deemed adequate. The data was tested for Sphericity using Bartlett's test and the sample had to be significant at a p-value less than 0.05 ($p<0.05$).

3.7.2 Reliability

Reliability refers to the consistency that research instrument can map out and test the constructs outlined to meet the research objectives. Internal consistency among the research constructs was tested for using the Cronbach Alpha scale (Galawe, 2017; Ratsimanetrimanana, 2019). Where constructs have low correlations, they were removed from the questionnaire to increase the reliability and therefore ensure a more credible data collection process.

The Cronbach alpha test was conducted to obtain the level of internal consistency amongst the items in each factor (as derived from the pattern matrix during validity testing). The correlation was also observed and the items with correlations lower than 0.3 (<0.3) removed to remain with the items that improve the internal consistency.

3.8 Data analysis and interpretation

All data was collected through Qualtrics and exported to SPSS for statistical analysis. The data was screened; assumptions tested to identify and address any violations; factor analysis and reliability testing done. Thereafter, composite scores for the variables were then computed and organized for hypothesis testing.

The data was coded into statistical distributions to allow for the computation of high-level analysis in terms of means, medians and percentages. Comparisons of the distributions were made and the influence of variables analysed. The correlations indicate the weight of linear influence of one variable on another (Schober et al., 2021). A negative correlation means an inversely proportionate influence of the one variable on another. This can be observed in the correlation coefficients between human capital and farm revenues in table 18. A positive correlation indicates a positive influence of the predictor variable on the dependent variable as can be observed in the relation between: (1) human capital and production yields; social capital and farm revenues as well as social capital and production revenues. The nearer to 1 a coefficient correlation, the greater the strength of influence/ relation between the variables (Schober et al., 2021).

- Hypothesis were tested through SPSS for analysis using multi-linear regression.

3.9 Limitations of study

The study being purposive may render results susceptible to distortion bias as the sample may not be fully representative of all small-scale farmers in Namibia. The fact that the study presents a snapshot view of the said population of farmers at a point in time may reduce its generalisability. Since the research only samples current farmers it may omit valuable insights from those that have left the trade or have failed to continue producing.

3.10 Ethical Considerations

In conducting this research, the researcher committed to having obtained ethics clearance from the University of Witwatersrand prior to the collection of any primary data to be used in this study. The researcher further ensured that consent was obtained from every participant and that the information collected was used for the sole purpose of this research. The research was not conducted on minors or vulnerable persons.

3.11 Conclusion

In conclusion, this research was conducted using a quantitative approach, employing a non-experimental, cross-sectional design to gather structured data through a questionnaire survey administered via Qualtrics. The study targeted small-scale farmers across all 14 regions of Namibia, drawing a purposive sample of 1,050 participants from the Namibia Agronomic Board's registry and other recognized agricultural networks. By using validated research instruments based on previously tested scales, the study ensured the reliability and comparability of the data. The collected responses were exported into SPSS, where statistical analyses were performed to test the study's hypotheses and generate insights into the role of entrepreneurial capital in small-scale farm performance. This methodological approach, while subject to certain limitations, provided a rigorous framework for exploring the research questions and sets the stage for further empirical investigations in Namibia's agricultural sector.

4. PRESENTATION OF DATA

4.1 Introduction

This section presents the research outcomes of the questions as stated in the first chapter. It outlines the characteristics of the sample in terms of demographics and then presents the findings observed from the data collected from the sample of 1050 small-scale farmers as obtained from the the Namibian Agronomic Board provided on their website: the agriculture community WhatsApp groups as recommended by industry experts as well as Veterinary Pharmacists amongst others. The data will be analysed using various tests namely validity, internal consistency, assumption testing and finally hypothesis testing.

4.2 Presentation of Data

This section profiles the demographic attributes of the respondents, and the survey data obtained from the questionnaire seeking participants' outlook on the influence of entrepreneurial capital on farm performance.

4.2.1 Data Screening

104 responses were received for this questionnaire. To ensure sample completeness, the data was cleaned by deleting incomplete responses that had more than 10% of questions unanswered. After this deletion, the sample reduced to 96. The remaining responses with missing values amounting to less than 10% were then replaced with the statical average to ensure a complete sample. This resulted in a final complete sample of 96 cases/ respondents which will be used to for this analysis.

4.3 Demographics

4.3. 1 Age distribution of respondents

The age distribution of the respondents reveals that more than 50% of small-scale farmers fall within the age range of 18-49 years which accounts for 81.25% of the total sample while the age group 50 years and above only caters for 18.75%. This observation may be attributable to the level of physical activity required in farming hence it is more doable by the younger, more

energetic and able-bodied age groups. This could also be granted the younger age group is more tech-savvy and comfortable with participation in surveys administered online.

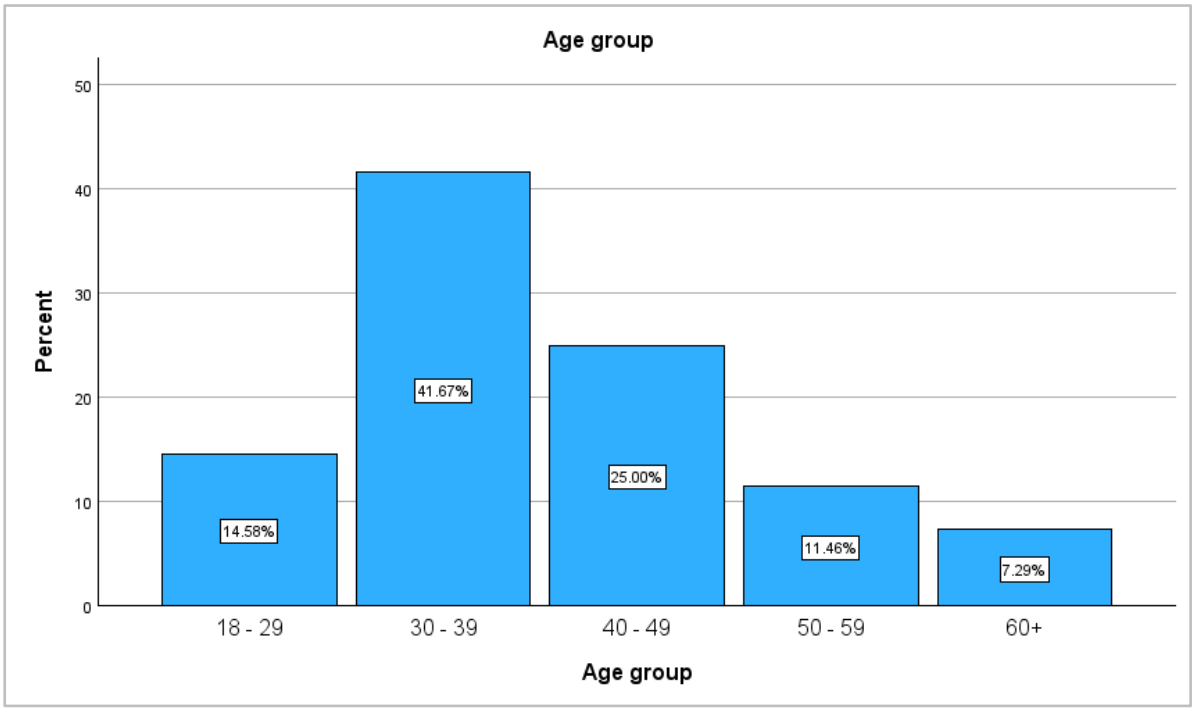


Figure 4: Participant age groups

Source: Primary data

4.3.2 Gender analysis

The questionnaire revealed that 69 out 96 participants which accounts for 71.9% of respondents were male while only 27 respondents which accounts for 28.1% were female. This analysis reveals that the small-scale farming sector is largely dominated by males. In the small-scale farm context this could be attributed to traditional notions on land ownership (land being a primary factor of production in agriculture) – land having been deemed a privilege reserved for males. These views are slowly changing; however, the effects of these practices can still be observed in present day land-ownership profiles.

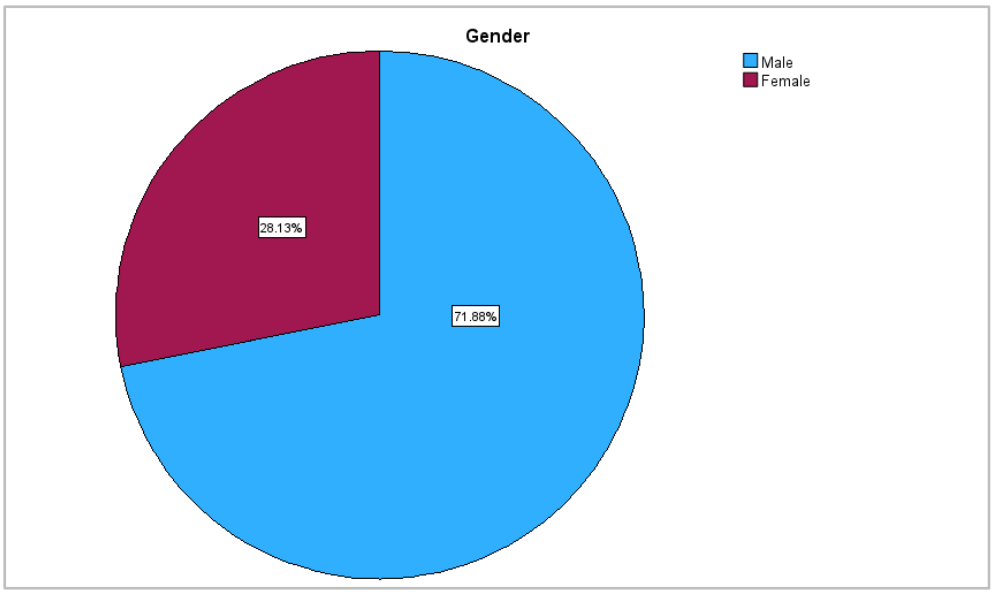


Figure 5: Gender Analysis

Source: Primary data

4.3.3 Education level

The demographics reveal that 83.33% of respondents have tertiary education. When read in unison with the age demographics this can be given the fact that majority of respondents are younger and have had the opportunity to obtain tertiary education post independence. The percentage of respondents with primary education or no education at all makes up less than 5% of total respondents this can also be attributed to the method of data collection used which may not entirely be accessible to individuals with little to no education.

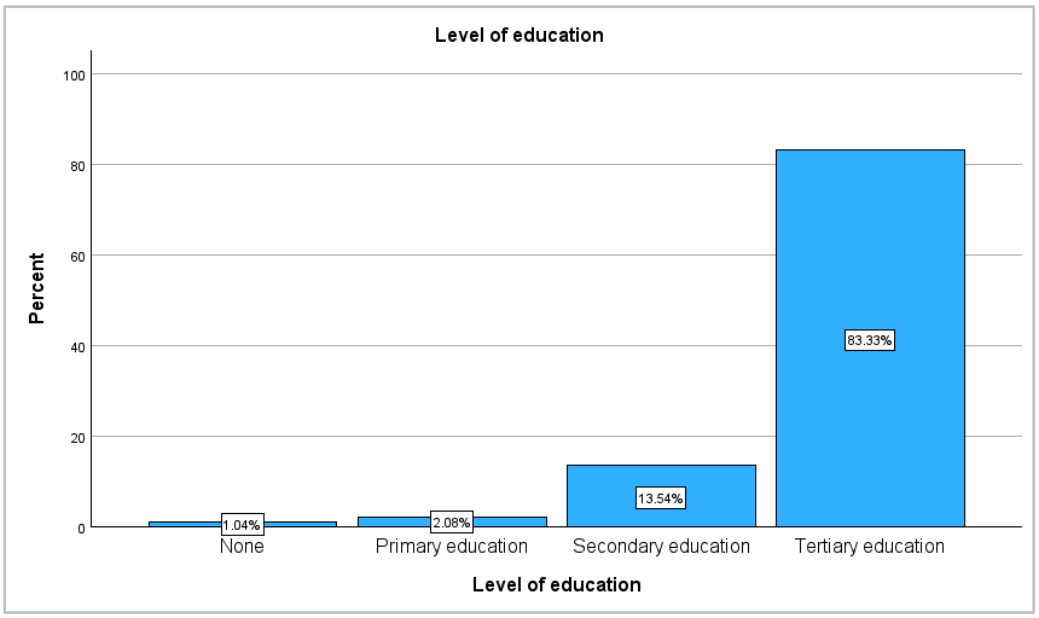


Figure 6: Education level

Source: Primary data

4.3.4 Type of Farming

The results collected reveal that majority (56.25%) of respondents are into mixed farming as opposed to those solely focused on livestock and crop farming which are 26.04% and 17.71% respectively. The inclination towards mixed farming could be attributed to efforts to reduce waste and introduce a circular economy in which the waste output from one operation serves as an input in the other operation for example the excretion from the livestock being used as manure for the crops and the leaves and excess harvests from the crops being used as animal feed.

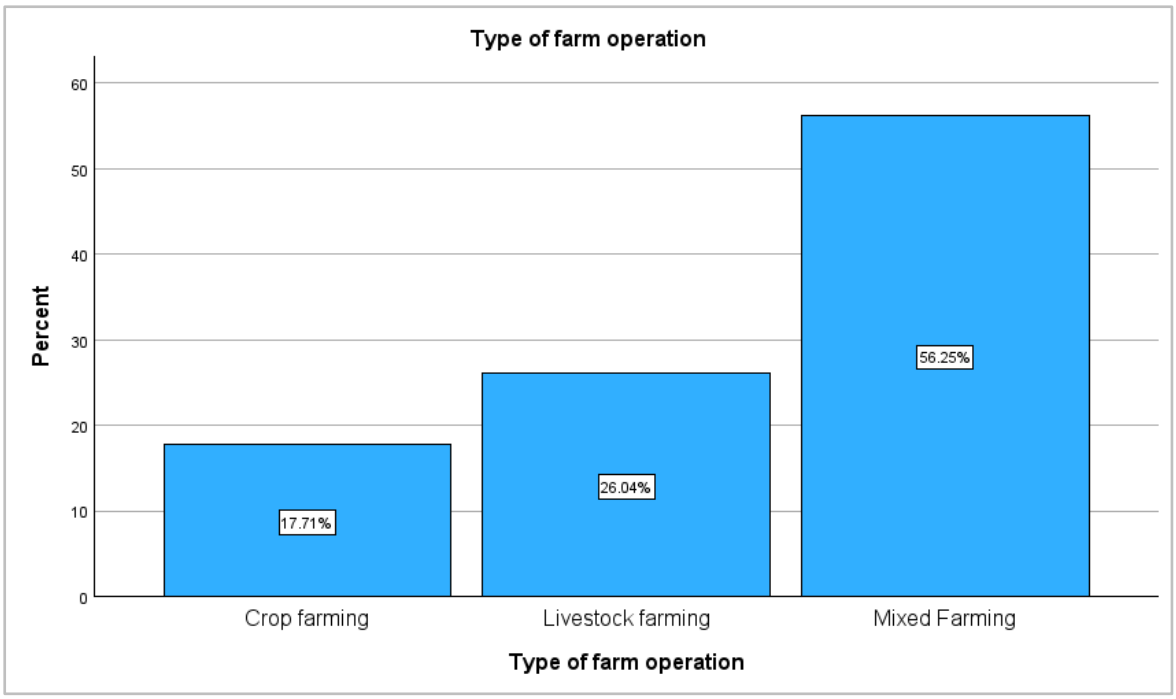


Figure 7: Type of farming

Source: Primary data

4.4 Construct Validity

4.4.1 KMO and Bartlett's test

Table 5: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.671
Bartlett's Test of Sphericity	Approx. Chi-Square	806.805
	df	190
	Sig.	<.001

Source: Primary data

The exploratory factor analysis as observed in Table 5 revealed that the sample size of n=96 is sufficient to run the analysis as it obtained a KMO of 0.671 which is greater that 0.5 and is statistically significant at 95% confidence interval as it yielded a P-value less than 0.05.

4.4.2 Total variance explained

When the exploratory factor analysis was conducted, 6 factors loaded with eigen values greater than 1. This yielded a cumulative total variance explained of 68.21% which is sufficient as it is greater than the acceptable of 50%. The variance explained means that 68.21% of what is happening in farm performance (the dependent variable) can be explained by the 6 factors that loaded with eigen values greater than 1 in this analysis. The number of items that loaded with Eigen values greater than 1 can be observed in table 6 and are also graphically depicted in the scree plot in figure 10 below.

Table 6: Total Variance Explained

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.672	23.360	23.360	4.251	21.253	21.253	3.258
2	3.173	15.865	39.224	2.769	13.844	35.096	2.421
3	1.836	9.181	48.405	1.412	7.060	42.156	2.475
4	1.590	7.949	56.354	1.179	5.894	48.050	3.132
5	1.350	6.748	63.103	.847	4.236	52.285	2.586
6	1.023	5.114	68.216	.595	2.974	55.259	1.365
7	.954	4.770	72.987				
8	.769	3.845	76.831				
9	.725	3.625	80.457				
10	.617	3.086	83.542				
11	.564	2.819	86.361				
12	.559	2.796	89.157				
13	.412	2.058	91.215				
14	.374	1.870	93.085				
15	.339	1.694	94.779				
16	.309	1.544	96.323				
17	.260	1.300	97.623				
18	.191	.956	98.580				
19	.156	.778	99.358				
20	.128	.642	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Source: Primary data

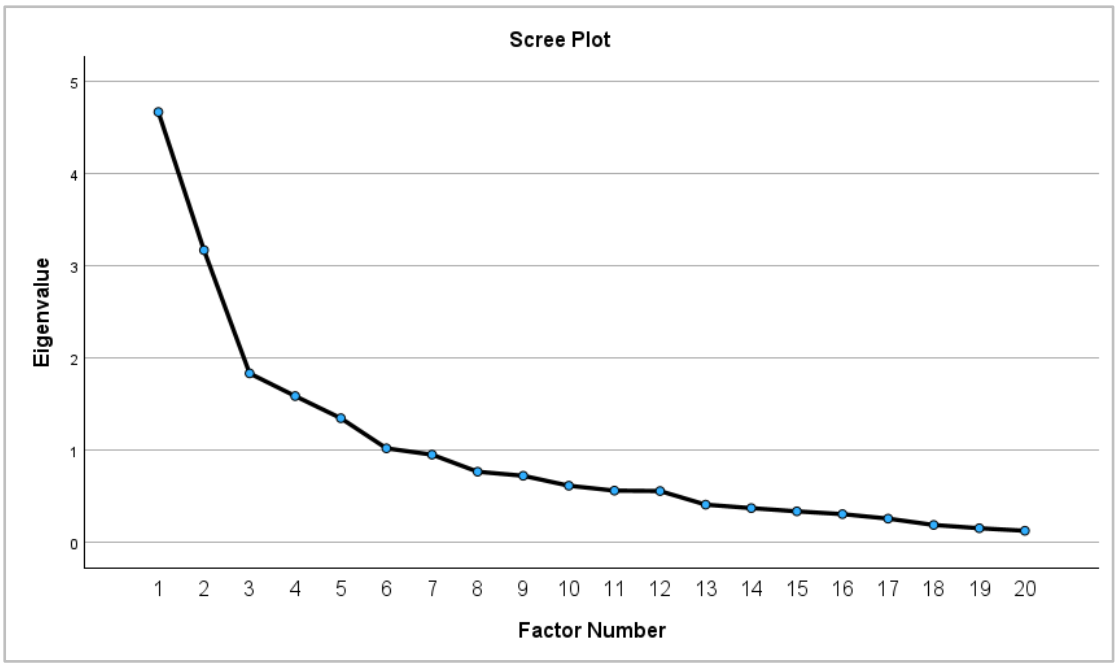


Figure 8: Eigenvalue Scree plot

The scree plot visually shows the 4 items with eigen values > 1. The first 3 items with a steep gradient before the inflection point explain the greatest variance. Those after the inflection point explain lesser variance as the curve flattens.

Source: Primary data

4.4.3 Factor extraction

Factor extraction was done to generate the pattern matrix which groups the items that relate best in measuring a particular construct. In this analysis, Principal Axis Factoring was used with Promax rotation to establish which of the items will converge to measure the same construct. During the review of extant literature, researcher identified human capital, social capital and financial capital as the constructs for measuring the independent variable (entrepreneurial capital) and production yields and farm revenues as the measures for the dependent variable (farm performance). The extraction was set to exclude any of the factors that loaded with coefficients less than 0.4.

As per the pattern matrix in table 7, the rotation resulted in only 4 constructs with 3 or more items each. The extraction rotated into the following constructs:

- Farm Revenues
- Human Capital

- Production Yields
- Social Capital

The rotation for Financial Capital converged in less than 3 items i.e. 2 items and hence could not be considered to be a construct as 3 the minimum items per construct (Galawe, 2017). The four constructs generated through the pattern matrix were therefore tested for internal consistency.

Table 7: Pattern Matrix

Pattern Matrix[a]

	Factor					
	1	2	3	4	5	6
FR_2_1	.852					
FR_4_1	.791					
FR_3_1	.737					
FR_1_1	.711					
HC_2_1		.895				
HC_6_1		.686				
HC_1_1		.563				
HC_3_1		.462				
SC_3_1			.861			
HC_7_1			.644			
SC_4_1			.586			
PY_1_1				.822		
PY_2_1				.695		
PY_4_1				.496		
PY_3_1				.478		
PY_6_1				.414		
FC_5_1					.875	
FC_4_1					.534	
FC_3_1						.704
FC_2_1						.490

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax without Kaiser Normalization.[a]

a. Rotation converged in 6 iterations.

Source: Primary data

4.4 Reliability testing

Reliability aims to measure the extent to which the items in a construct accurately measure that construct. The Cronbach Alpha scale is used to measure reliability, and the table below provides the interpretation of ratings for various reliability scores.

Table 8: Reliability score ranking

≤ 0.5	Poor /unacceptable
0.5 < 0.7	Acceptable
0.7 < 0.8	Good
0.8 <0.9	Very good
>0.9	Excellent

Source: (Warmbrod, 2014)

4.5.1 Human Capital scale

Table 9: Cronbach Alpha - Human Capital

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.725	.754	4

Source: Primary data

The reliability score for human capital yielded a Cronbach Alpha score of 0.725 with four items which is deemed good. Furthermore, the table below indicates that this is the best score for this construct and there are no items that can be deleted to improve reliability as all the scores under "Cronbach Alpha if item" deleted are yield outcomes lower than the one where construct has all the 4 items that yielded from the pattern matrix.

Table 10: Item -Total Statistics - Human Capital

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
HC_1_1	18.60	5.308	.526	.282	.671
HC_2_1	18.42	6.628	.588	.460	.631
HC_3_1	19.13	5.979	.468	.224	.699
HC_6_1	18.45	7.366	.573	.434	.660

Source: Primary data

4.5.2 Social Capital scale

Table 11: Cronbach Alpha - Social Capital

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.772	.771	3

Source: Primary data

The internal consistency analysis for social capital yielded a Cronbach Alpha score of 0.772 with 3 items. This score is good, and it is the highest obtainable as 3 is the minimum number of items that a construct can have in order to be deemed an adequate scale for measurement. The Alpha if item deleted scores in table 12 below also indicate that this is the best possible score for this construct.

Table 12: Item-Total Statistics - Social Capital

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SC_3_1	16.81	4.565	.670	.457	.617
SC_4_1	16.70	5.075	.619	.407	.678
HC_7_1	21.25	5.785	.537	.293	.765

Source: Primary data

4.5.3 Production Yield Scale

Table 13: Cronbach Alpha – Production Yields

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.734	.733	4

Source: Primary data

The reliability score for Production Yield resulted in a Cronbach Alpha score of 0.734 with 4 items. This Apha score can be interpreted to be a reliable enough scale to measure production yields. The Alpha if item deleted table below indicates that item PY_6_1 can be deleted and the score remains the same. The researcher has therefore chosen to keep this item as it has no effect on the reliability measure.

Table 14: Item-Total Statistics - Production Yields

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PY_2_1	12.70	14.648	.528	.291	.673
PY_3_1	12.42	13.559	.565	.336	.651
PY_4_1	12.22	14.626	.612	.375	.625
PY_6_1	10.95	17.577	.409	.181	.734

Source: Primary data

4.5.4 Farm Revenue Scale

Table 15: Cronbach Alpha – Farm Revenues

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.863	4

Source: Primary data

The reliability scale for Farm Revenue yielded a very good Cronbach Alpha of 0.861 with 4 items. Looking at the item-Total Statistics table, this is the highest possible score that can be obtained for this construct i.e. there is no item that can be deleted to improve the reliability score.

Table 16: Item-Total Statistics - Farm Revenues

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FR_1_1	28.42	16.164	.700	.575	.828
FR_2_1	28.47	16.466	.766	.628	.798
FR_3_1	28.50	17.541	.671	.509	.837
FR_4_1	28.41	18.371	.705	.537	.826

Source: Primary data

4.6 Assumption testing

There are assumptions that need not be violated for data to be suitable for regression analysis. Assumptions were tested to ensure that; there is no missing data violations or outliers, there is linearity, any error in the data is normally distributed, and that there is no multi-collinearity that can affect the regression.

4.6.1 Outliers

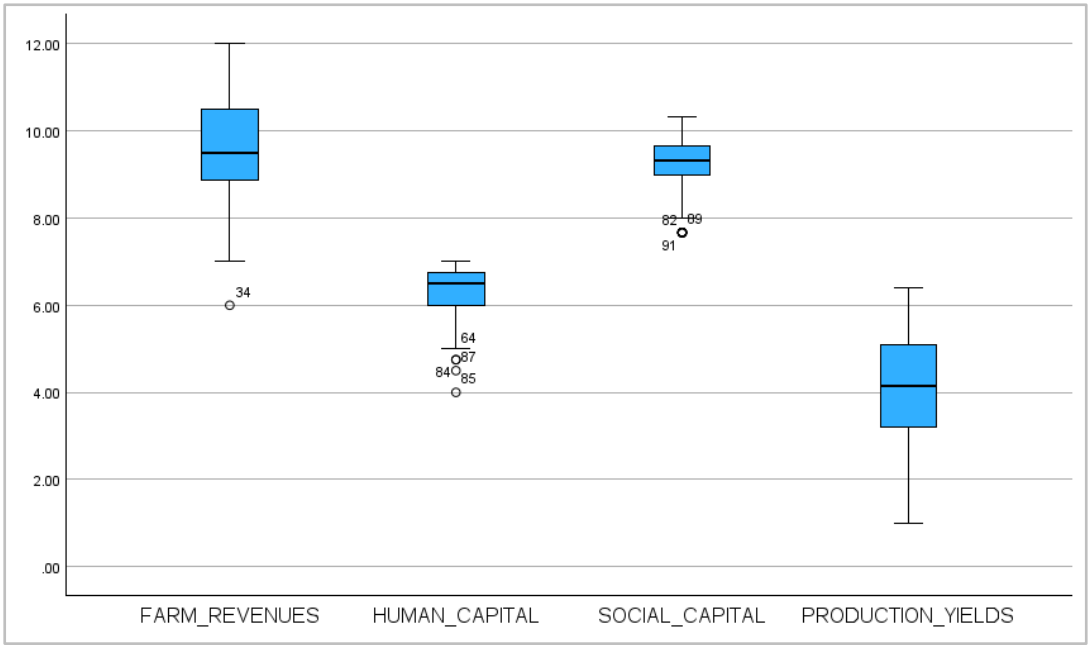


Figure 9: Outliers

Source: Primary data

The boxplot in figure 11 shows that the data had no outliers. All outliers were addressed using the winzorizing method which replaces all outlier data points with the next lowest or highest data point.

4.6.2 Correlations (& Frequencies)

Table 17: Composite score table

Statistics

		FARM_REVENUES	HUMAN_CAPITAL	SOCIAL_CAPITAL	PRODUCTION_YIELDS
N	Valid	96	96	96	96
	Missing	0	0	0	0
Mean		9.4843	6.2612	9.2473	4.1396
Median		9.5000	6.5000	9.3333	4.1396
Mode		9.48	6.75	9.67	4.14
Skewness		-.674	-1.087	-.763	-.119
Std. Error of Skewness		.246	.246	.246	.246
Kurtosis		-.297	.648	.013	-.657
Std. Error of Kurtosis		.488	.488	.488	.488
Minimum		6.00	4.00	7.67	1.00
Maximum		12.00	7.00	10.33	6.40
Sum		910.49	601.08	887.74	397.40

Source: Primary data

Judging from the similarity in the values of the mean, median and mode scores of each of the variables shown in table 17; the data appears to be symmetric i.e. normally distributed. This is also graphically displayed in the normality curves in figures 12 and 13. The kurtosis refers to the standard deviation from the norm i.e. the variance from the mean (Demir, 2022). This reflects how far or close the data points are spread from the mean. The kurtosis outcomes for farm revenues, human capital, social capital and production yields were -.297, .648. .013 and -.657 respectively. A low kurtosis (less than 1) as observed in table 17 above means the data has a low standard deviation meaning the data points can be mapped closer to the mean.

Table 18: Correlations table

Correlations

		FARM_REVENUES	HUMAN_CAPITAL	SOCIAL_CAPITAL	PRODUCTION_YIELDS
FARM_REVENUES	Pearson Correlation	1	-.024	.163	.427**
	Sig. (2-tailed)		.820	.113	<.001
	N	96	96	96	96
HUMAN_CAPITAL	Pearson Correlation	-.024	1	.501**	.016
	Sig. (2-tailed)	.820		<.001	.877
	N	96	96	96	96
SOCIAL_CAPITAL	Pearson Correlation	.163	.501**	1	.169
	Sig. (2-tailed)	.113	<.001		.100
	N	96	96	96	96
PRODUCTION_YIELDS	Pearson Correlation	.427**	.016	.169	1
	Sig. (2-tailed)	<.001	.877	.100	
	N	96	96	96	96

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

Source: Primary data

The coefficients for the influence of these independent variables are quite weak; for human capital and farm revenues, it is a weak, negative correlation coefficient of -0.024, while for human capital and production yields it is a weak positive correlation of 0.016. The correlation coefficient of the influence of social capital on farm revenues is a positive one (slightly stronger than that observed in the influence of human capital on the two dependent variables) with a value of 0.163; while that of the influence of social capital is positive with a correlation value of 0.169. The p-values for the correlation of human capital on farm revenues and production yields are statistically insignificant for n=96 at 0.82 and 0.877 respectively. The p-values for social capital on farm revenues and production yields are also statistically insignificant for n=96 having obtained p-values of 0.113 and 0.100 respectively.

4.6.3 Normality

Figures 1,2,3,4 shout the histograms for each of the dependent variables i.e. Farm revenues and production yields. The curve indicates that the errors in the data are normally distributed and therefore the assumption for normality has not been violated.

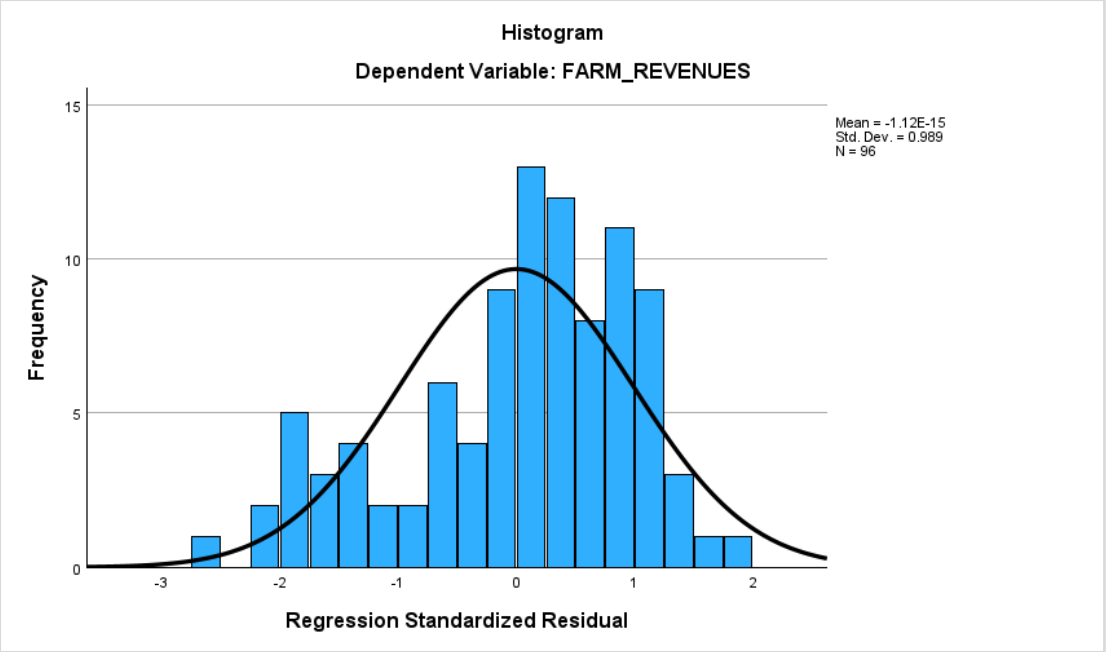


Figure 10: Normality curve - Farm revenues

Source: Primary data

The histogram shows that the regression standardized residuals for farm revenues are approximately normally distributed, with a mean near zero and a standard deviation close to one. The distribution aligns reasonably well with the overlaid normal curve, indicating minimal skewness. This suggests that the assumption of normality in the residuals is sufficiently met for regression analysis.

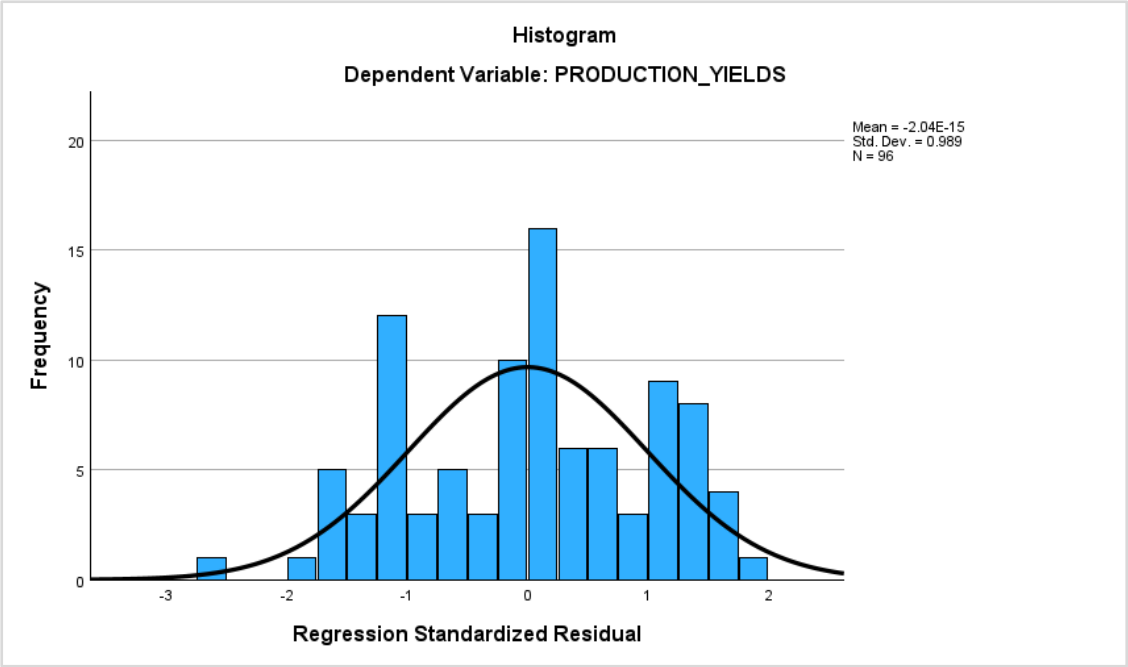


Figure 11: Normality curve - Production yields

Source: Primary data

The histogram of standardized residuals for production yields shows a roughly symmetrical distribution centered around zero, with a standard deviation near one. While the bars are slightly uneven, the overall shape aligns reasonably well with the normal curve. This suggests that the normality assumption for the residuals is adequately satisfied for regression analysis.

4.6.4 Linearity

The p-p plots in figure 14 below show the linearity of the relationship between the dependent variable farm revenues and the independent variables human capital and financial capital. The connection between these variables models a linear correlation.

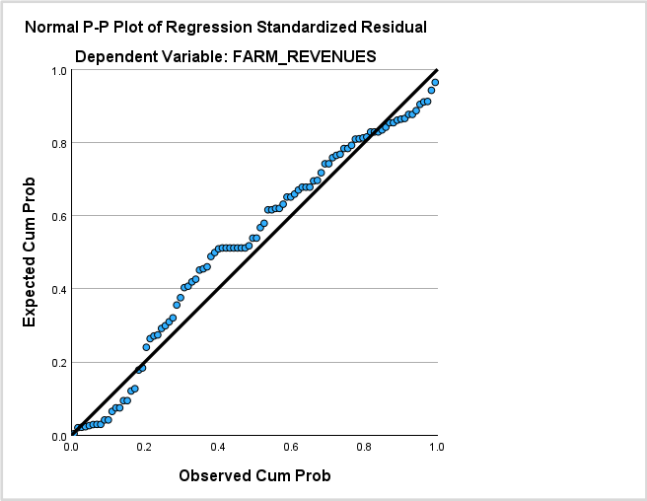


Figure 12: P-P Plot for Farm revenues

Source: Primary data

The p-p plot for farm revenues shows that the data points are approximately normally distributed, satisfying the normality assumption of linear regression.

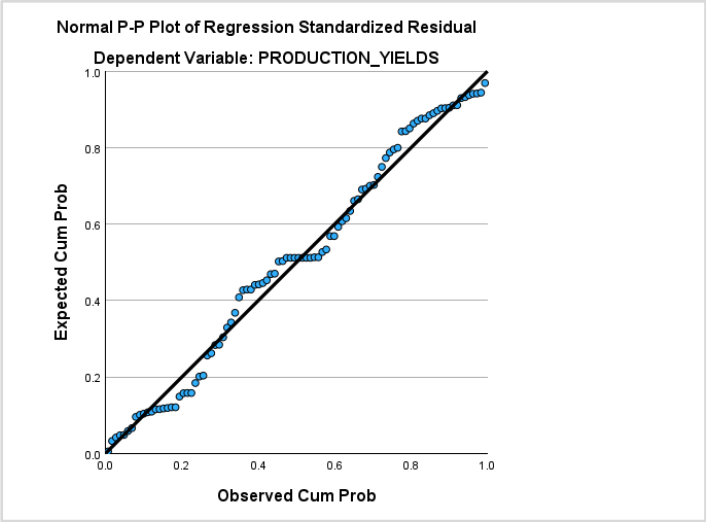


Figure 13: P-P Plot Production Yields

Source: Primary data

The p-p plot for production yields shows that the data points are approximately normally distributed, satisfying the normality assumption of linear regression.

Figure 15 contains the P-P plot depicting the linearity of the relationship between the dependent variable production yields and the independent variables human capital and social capital. The data points are seen to follow a linear graph which confirms that the correlation

between the dependent and independent variables under observation are indeed linear and that the assumption for linearity has not been violated.

4.6.5 Independence of observations

The scatterplots in figures 16 and 17 reflect the independence of the observations. This indicates that every response was collected from a different participant. The data points are seen to be scattered therefore indicating that respondents did not have any influence on each other's outcomes.

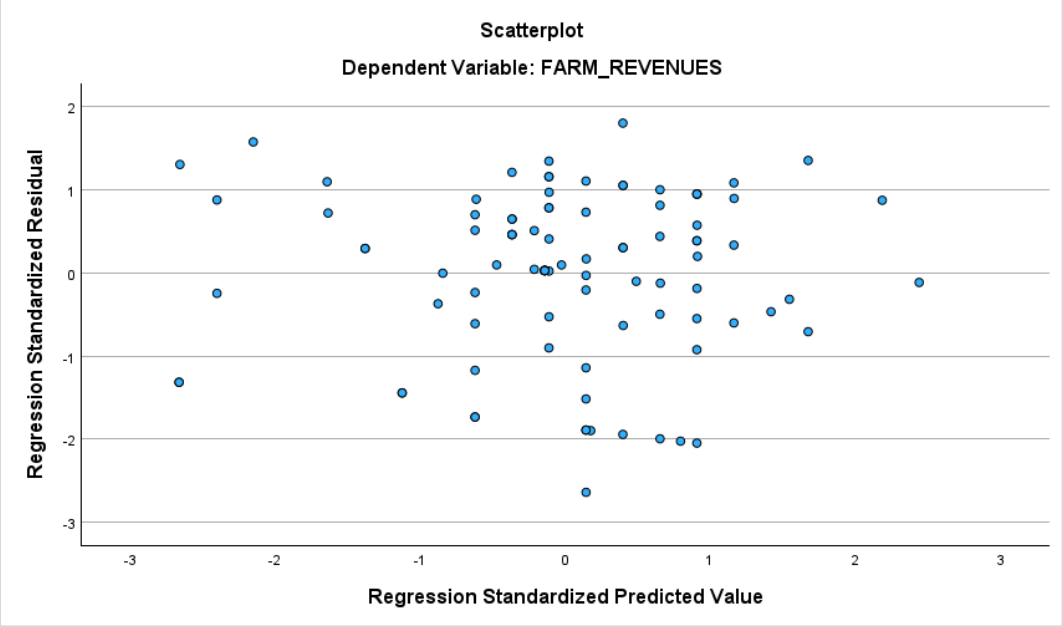


Figure 14: Scatterplot- Farm Revenues

Source: Primary data

The scatterplot shows that the model for farm revenues is well-fitted, satisfying the key assumptions of linearity, homoscedasticity and shows no obvious outliers.

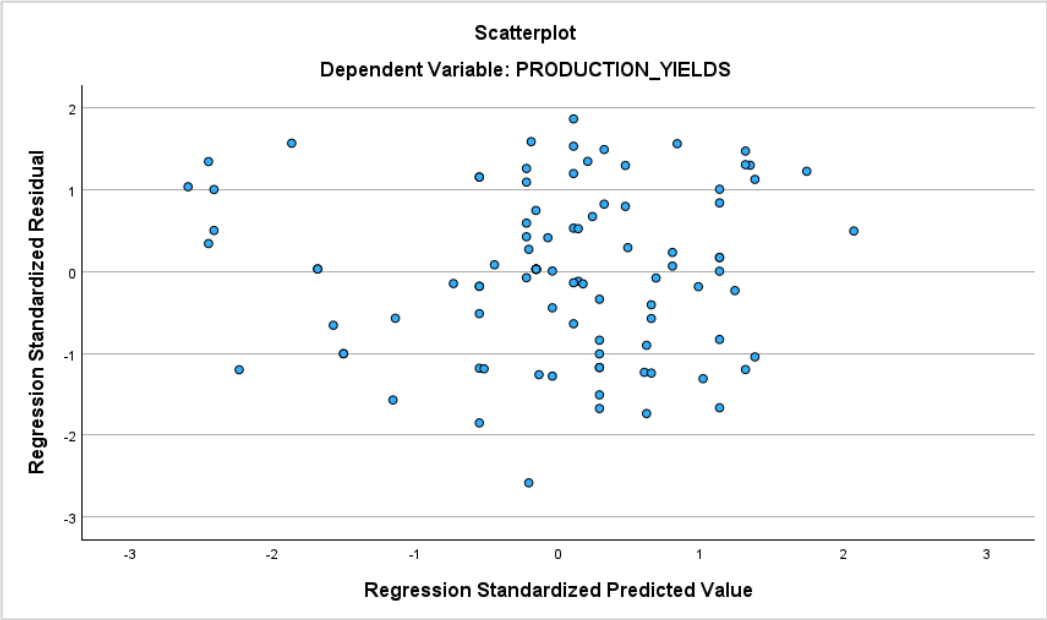


Figure 15: Scatterplot - Production yields

Source: Primary data

4.7 Regression analysis

Regression analysis is the technique used to simulate the relationships or influences between variables. This section uses multi-linear regression to determine the magnitude of influence of the independent variables on the dependent variables.

4.7.1 Pearson correlation of Farm Revenues, Human Capital and Social Capital

The multiple correlation coefficient measures the affiliation between the dependent variable i.e. farm revenues and the independent variables human capital and social capital. This coefficient estimates the strength of correlation of the actual dependent variable and the predictor variable. The higher the coefficient, the more reliable the regression model that results from the analysis.

The correlation efficient in table 19 shows a weak negative correlation between farm revenues and human capital of -0.024, the relationship is also insignificant at 95% confidence level as P is 0.41 which is greater than 0.05.

The correlation coefficient of farms revenues and social capital is a positive one of 0.163 and is insignificant at a 95% confidence level with a p-value of 0.057 which is greater than 0.05. The outcome of the correlation coefficients may have emerged to be different for a different sample size of n=96 may not sufficiently capture the significance of the relation between the actual dependent variables and the estimated variables that the regression model aims to map out.

Table 19: Pearson Correlations Dependent Variable Farm Revenues

Correlations

		FARM_REVENUES	HUMAN_CAPITAL	SOCIAL_CAPITAL
Pearson Correlation	FARM_REVENUES	1.000	-.024	.163
	HUMAN_CAPITAL	-.024	1.000	.501
	SOCIAL_CAPITAL	.163	.501	1.000
Sig. (1-tailed)	FARM_REVENUES	.	.410	.057
	HUMAN_CAPITAL	.410	.	.000
	SOCIAL_CAPITAL	.057	.000	.
N	FARM_REVENUES	96	96	96
	HUMAN_CAPITAL	96	96	96
	SOCIAL_CAPITAL	96	96	96

Source: Primary data

Table 20: Model Summary - Farm Revenues

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.203[a]	.041	.021	1.33497	1.541

a. Predictors: (Constant), SOCIAL_CAPITAL, HUMAN_CAPITAL

b. Dependent Variable: FARM_REVENUES

Source: Primary data

The model summary in table 20 shows R^2 which is the coefficient of determination. This reveals how much of the change (variance) in the dependent variable i.e. farm revenues can be explained by the independent variables. The greater the R^2 value, meaning a higher variance in farm revenues being explained by the human capital and social capital (the independent variables); the more robust the regression model (Field, 2013). The R^2 value for this regression model is 0.043 which means only 4.3% of the variance in farm revenues can be explained by human capital and social capital.

The adjusted R^2 value factors into account the overestimation of the original R^2 and addresses it by providing a more accurate reflection of the coefficient of determination (Field, 2013). The adjusted R^2 value is 0.021, which means once the overestimation is addressed, only 2.1% of the variance in farm revenues is explained by the human capital and social capital.

The standard estimation error shows the extent to which the model overestimates the dependent variable i.e. farm revenues.

Table 21: Analysis of Variance (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.120	2	3.560	1.998	.141[b]
	Residual	165.739	93	1.782		
	Total	172.859	95			

a. Dependent Variable: FARM_REVENUES

b. Predictors: (Constant), SOCIAL_CAPITAL, HUMAN_CAPITAL

Source: Primary data

The analysis of variance in table 21 show the result for the F-test which reveals whether there is a significant difference between the variance that is captured by the model and the level of error within the model.

Table 22: Regression coefficients - Farm revenues

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	7.363	1.762		4.179	<.001	3.864	10.861		
	HUMAN_CAPITAL	-.280	.234	-.140	-1.195	.235	-.744	.185	.749	1.335
	SOCIAL_CAPITAL	.419	.211	.233	1.985	.050	.000	.837	.749	1.335

a. Dependent Variable: FARM_REVENUES

Source: Primary data

Table 22 shows the regression coefficients that are to be used in the model's regression equation. The unstandardized coefficients are the ones used in the equation. The independent variable with the highest beta value has the greatest influence on the dependent variable. The regression equation for this model follows the conventional linear equation model:

$$\mathbf{FR_1 = \beta_1 X_1 + \beta_2 X_2 + b_0 + \varepsilon_i}$$

Where:

β_1 =Beta coefficient for human capital

β_2 =Beta coefficient for social capital

b_0 = the constant

ε_i = standard regression model error

With reference to the coefficients from the regression analysis in table 22; the multi-linear equation depicting the influence of human capital and social capital on farm revenues can be deduced as follows:

$$\mathbf{FR_1 = -0.28X_1 + 0.419\ X_2 + 7.363 + \varepsilon_i}$$

Where:

FR_1 = Farm Revenues

-0.28 = Beta Coefficient for human capital

X_1 = Human Capital

0.419 = Beta Coefficient for social capital

X_2 = Social Capital

7.363 = the constant (b_0) which is the y-intercept when X_1 and X_2 = 0

As per table 22 above, human capital has a negative beta coefficient of -0,280 while social capital has a positive beta value of 0.419. It can therefore be inferred that social capital has a greater influence on farm revenues in the positive direction than human capital has on farm revenues in the negative direct. This means that an increase of the same magnitude in human capital and social capital i.e. $X_1 = X_2$, will result in a greater positive influence on farm revenues than the negative effect by human capital causing the overall influence of these predictor variables on performance in terms of farm revenues to be overall positive

4.7.2 Pearson correlation for Production Yields, Human Capital and Social Capital.

Table 23: Pearson Correlation - Production yields

Correlations

		PRODUCTION_YIELDS	HUMAN_CAPITAL	SOCIAL_CAPITAL
Pearson Correlation	PRODUCTION_YIELDS	1.000	.016	.169
	HUMAN_CAPITAL	.016	1.000	.501
	SOCIAL_CAPITAL	.169	.501	1.000
Sig. (1-tailed)	PRODUCTION_YIELDS	.	.439	.050
	HUMAN_CAPITAL	.439	.	.000
	SOCIAL_CAPITAL	.050	.000	.
N	PRODUCTION_YIELDS	96	96	96
	HUMAN_CAPITAL	96	96	96
	SOCIAL_CAPITAL	96	96	96

Source: Primary data

Table 24: Model Summary - Production Yields

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.186[a]	.035	.014	1.19760	2.109

a. Predictors: (Constant), SOCIAL_CAPITAL, HUMAN_CAPITAL

b. Dependent Variable: PRODUCTION_YIELDS

Source: Primary data

Table 25: Analysis of Variance (ANOVA) - Production Yields

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.799	2	2.400	1.673	.193[b]
	Residual	133.385	93	1.434		
	Total	138.184	95			

a. Dependent Variable: PRODUCTION_YIELDS

b. Predictors: (Constant), SOCIAL_CAPITAL, HUMAN_CAPITAL

Source: Primary data

Table 26:Regression coefficients - Production Yields

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.973	1.581		1.248	.215	-1.166	5.111		
	HUMAN_CAPITAL	-.163	.210	-.092	-.778	.439	-.580	.253	.749	1.335
	SOCIAL_CAPITAL	.345	.189	.215	1.823	.072	-.031	.721	.749	1.335

a. Dependent Variable: PRODUCTION_YIELDS

Source: Primary data

Table 26 shows the regression coefficients for the influence of human social and social capital on production yields. The linear regression equation for this model can be deduced as follows:

$$\mathbf{PY_1 = \beta_3 X_1 + \beta_4 X_2 + b_0 + \varepsilon_i}$$

β_1 =Beta coefficient for human capital

β_2 =Beta coefficient for social capital

b_0 = the y-intercept/ constant

ε_i = standard regression model error

The equation for this regression is:

$$\mathbf{PY_1 = -0.163 X_1 + 0.345\ X_2 + 1.973 + \varepsilon_i}$$

Where:

PY_1= Production Yields

-0.163 = Beta coefficient for human capital (β_3)

X_1 = Human Capital

0.345 = Beta coefficient for social capital (β_4)

X_2 = Social Capital

1.973 = = the constant (b_0) which is the y-intercept when X_1 and $X_2 = 0$

From table 26 above, it can be observed that human capital has a negative influence on production yields with a coefficient of -0.163, while social capital has a positive influence with a coefficient of 0.345. Given that in real terms the value of the coefficient of social capital i.e. 0.345 is greater than that of human capital which is -0.163, it can therefore be inferred that

social capital has a greater influence on production yields in the positive direction than the influence human capital has on production yields in the opposite i.e. negative direction. This therefore means, at equal values of human capital and social capital i.e. $X_1 = X_2$; the overall influence of both the independent variables on the farm performance in terms of production yields which is the dependent variable, will be positive.

4.8 Hypothesis testing

The set hypothesis for this study sought to determine the extent and direction of influence of entrepreneurial capital (predictor) on farm performance (outcome). The variables human capital, social capital and financial capital were deduced from extant literature as measurable constructs for entrepreneurial capital and the variables farm revenues and production yields for farm performance. Hypothesis were then made drawing from existing literature. Six (6) Hypothesis were generated, however, after the factor rotation during Exploratory Factor Analysis (EFA) the convergence only generated four (4) constructs instead of the initial five (5) that resulted in six (6) hypotheses. With financial capital not having emerged from the convergence, the hypotheses tested reduced to the following four (4):

1. Human capital has a positive significant influence on farm revenues
2. Social capital has a positive significant influence on farm revenues
3. Human capital has a positive significant influence on production yields
4. Social has a positive significant influence on production yields

4.8.1Hypothesis 1

Hypothesis 1 (H_1): *Human Capital has a positive significant influence on farm revenues.*

H_1 Result: Human capital emerged to have a negative insignificant influence on farm revenues.

The regression analysis revealed that human capital has a negative influence on farm revenues yielding a negative beta coefficient of -0.280. This influence emerged to be statistically insignificant with a p-value of 0.235 which is greater than 0.05 (p> 0/05), the regression model is therefore insignificant. The results of this analysis therefore rejects this hypothesis.

The equation for the multi-linear regression for the influence of human capital and social is:

$FR_1 = -0.28X_1 + 0.419\ X_2 + 7.363 + \varepsilon_i$

4.8.2 Hypothesis 2

Hypothesis 2**:** *Social capital has positive significant influence on farm revenues*

H_2 Result: ***Social capital emerged to have a <u>positive significant</u> influence on farm revenues***

The analysis revealed that social capital has a positive influence on farm revenues with a beta coefficient of 0.419. The influence is statistically significant with a P-value of exactly 0.05 (P = 0.05). The result of this analysis therefore supports the hypothesis.

$FR_1 = -0.28X_1 + 0.419\ X_2 + 7.363 + \varepsilon_i$

4.8.3 Hypothesis 3

Hypothesis 3*: Human Capital has a positive significant influence on production yields.*

H_3 Result: ***Human capital emerged to have a <u>negative insignificant</u> influence on production yields***

Human capital emerged to have a negative influence on production yields with a beta coefficient of -0.163. The regression model emerged to be statistically insignificant with a p-value greater than 0.05 at .489. The results of this analysis therefore reject the hypothesis.

$PY_1 = -0.163X_1 + 0.345\ X_2 + 1.973+ \varepsilon_i$

4.8.4 Hypothesis 4

Hypothesis 4*: Social capital has a positive significant influence on production yields.*

H_4 Result: ***Social capital emerged to have a <u>positive insignificant</u> influence on production yields***

The analysis revealed that social capital has a positive influence on production yields with a beta coefficient of 0.419. The influence is statistically insignificant with a P-value of 0 .072 which is greater than 0.05 (P > 0.05). The outcome of this analysis is that the hypothesis is not support as the p-value is statistically insignificant.

$PY_1 = -0.163X_1 + 0.345\ X_2 + 1.973 + \varepsilon_i$

4.9 Conclusion

This chapter provided detailed outcomes of the study. The section shed light on the sample characteristics of the respondents that participated in the study in terms of their age, gender, level of education and the type of farming they are engaged in. This provided a demographic representation of the small-scale farmer population in Namibia. The data gathered from the participants was screened and cleaned. Validity testing was then done on the data. First it was tested for sample adequacy using Bartlet's test to determine whether the sample was sufficient for further analysis.

Exploratory factor analysis was then done to determine total variance in the determine how much of what is happening in the dependent variable -farm performance can be explained by the independent variable entrepreneurial capital based on the number of factors that loaded with eigen values greater than 1. Factor extraction was done to ascertain the number of items that would load and converge into constructs within the set cut-off points from the initial factors. From the initial 5 factors that the study started with, only 4 constructs emerged from the factor extraction, namely: human capital; social capital, farm revenues and production yields.

The emerging constructs were then tested for reliability using the Cronbach Alpha scale to determine the extent to which the scales accurately measure the variables that they are meant to measure. The scales were then assessed to establish whether there are items that can be deleted to improve the scale. The composite scores were computed for each variable using the mean series to obtain singular data for each variable to use for further analysis.

Assumption testing was done to ensure that the data does not violate any of the assumptions that need to be in place for regression analysis to carried out. After ascertaining that no assumptions were violated, regression analysis was then conducted to enable the testing of the hypothesis laid out in chapter 2. The hypotheses were tested and the results presented in this section.

5 DATA ANALYSIS

5.1 Introduction

This section will delve into the interpretation and discussion of the research findings. It will outline the outcome of each of the set hypothesis as per the regression analysis in Chapter 4 and their interpretation/ meanings. It will further provide insights to correlations and patterns within the data and its relation to extant literature. The chapter will provide outline the contribution of this study to the existing body of knowledge.

5.2 Discussion of hypothesis 1

H_1: Human capital has a positive significant influence on farm revenues.
H_1 Outcome: Human capital has a <u>negative insignificant</u> influence on farm revenues.

In contrast to what was Hypothesised in ***H_1***, the research results revealed a negative correlation on the influence of human capital on farm revenues which is statistically insignificant. Where literature shows a positive correlation between these variables (Kriese et al., 2021), the outcome from the observed dataset consisting of findings from small scale farmers in Namibia has failed to accept the hypothesis and suggests that higher levels of human capital do not result in increased farm revenues. Instead, higher levels of human capital were found to have a negative correlation with farm revenues providing of the Namibian small scale farmer population observed.

According to Angrist et al. (2019), the method used to measure human capital can significantly influence its perceived impact on productivity or performance. When measurement focuses more on knowledge acquisition or absorption—rather than on the ability to apply that knowledge through practical skills—it may fail to capture the true effect of human capital on performance. Human capital can only have a measurable impact if the knowledge gained is both internalized and translated into productive outputs. Moreover, the cost of acquiring and maintaining a highly skilled and experienced workforce may be unsustainable for small-scale farms. In such cases, the expense of hiring qualified individuals could inflate the farm's cost structure, raising the break-even point and required profit margins beyond what the farm is

realistically able to achieve potentially resulting in a negative relationship between high human capital and farm profitability.

Fortunato and Valdivia (2023) note that while there is an adequate supply of human capital stemming from formal education in the country, the shortage lies in the availability of individuals with specialized skills and sector-specific knowledge particularly in agriculture. As a result, the observed outcomes may be attributed to the way human capital is measured primarily by general education levels rather than by relevance to the agricultural sector. This leads to a misallocation of human capital, where individuals possess skills that are not aligned with the specific demands of the farming activities they are engaged in. Consequently, despite the presence of human capital, productivity may suffer due to the lack of appropriate, industry-specific competencies.

These findings offer valuable insights into the impact of human capital on farm revenues at the small-scale farming level in Namibia. They provide a foundation for informing policy decisions related to entrepreneurial capital investments aimed at enhancing small-scale farm performance and, by extension, contributing to national economic growth. This study represents a pioneering effort in examining small-scale farm performance in Namibia. Although the sample size (n = 96) was found to be adequate based on validity testing, expanding the sample in future research would help improve the generalizability and significance of the findings. Future studies should also explore the specific influence of industry-relevant knowledge and skills key components of human capital on small-scale farm productivity.

5.3 Discussion of hypothesis 2

H_2: Social capital has a positive significant influence on farm revenues.

H_2 Outcome: Social capital has <u>positive significant</u> influence on farm revenues.

The analysis revealed a significant positive relationship between social capital and farm revenues. This suggests that stronger social networks among farmers are associated with increased revenue generation. Expansive social capital networks enable risk-sharing among farmers, thereby enhancing sales and overall financial performance (Zugravu-Soilita et al., 2021). The benefits of social capital are particularly evident when small-scale producers leverage farmers' associations to collectively advocate for market access. By pooling their

resources and efforts, they can secure market opportunities that would be unattainable or unsustainable on an individual basis (Bignotti et al., 2021; Fortunato & Valdivia, 2023).

The multiple linear regression analysis examining the influence of social and human capital on farm revenues revealed a positive coefficient for social capital and a negative coefficient for human capital. This outcome aligns with findings by Prasetyo et al. (2020), who suggest that different dimensions of entrepreneurial capital interact with one another to collectively influence performance. In this case, the combined effect of the independent variables contributes to an overall positive impact on performance, measured through farm revenues. It is also essential that these forms of capital are assessed in terms of competence, ensuring that the capital is not only present within individuals but also translatable into productive outcomes (Ratsimanetrimanana, 2019).

5.4 Discussion of hypothesis 3

H_3: Human capital has a positive significant influence on production yields.

H_3 Outcome: Human capital has a <u>negative insignificant</u> influence on production yields.

Contrary to the initial hypothesis, the analysis found that human capital has a negative and statistically insignificant effect on production yields. This result may stem from limitations in how human capital was measured—specifically, the failure to adequately capture competence, which is the aspect most directly linked to productivity (Ratsimanetrimanana, 2019). When human capital is assessed solely through indicators such as educational enrolment rates, without accounting for actual skill acquisition or practical application, it may appear abundant while failing to produce tangible improvements in output (Prasetyo et al., 2020). Given the broad nature of human capital, further research is needed to operationalize it by disaggregating it into sub-dimensions- such as skills, experience, and education -and evaluating their individual effects on farm revenues. This finding is consistent with Fortunato and Valdivia (2023), who argue that human capital is not the definitive constraint on agricultural performance in Namibia. Despite improved access to education since independence, corresponding gains in labour efficiency and productivity have not materialized.

Another possible explanation for the negative influence of human capital is the resource constraints faced by small-scale farmers. The high cost of maintaining a skilled workforce may limit their ability to invest in essential production inputs such as seeds, fertilizers, and feed - ultimately hindering output. Additionally, when farmers are unable to offer competitive remuneration that aligns with education levels, skilled individuals tend to migrate from rural farming areas to urban centres in search of better employment opportunities (Fortunato & Valdivia, 2023). To mitigate the financial burden associated with human capital, institutional interventions—such as production-specific training provided through agricultural extension services—can serve as a cost-effective alternative to enhance farmer competencies.

5.5 Discussion of hypothesis 4

H_4: Social capital has a positive significant influence on production yields.

H_4 Outcome: Social capital has a <u>positive insignificant</u> influence on production yields.

The analysis revealed a positive but statistically insignificant relationship between social capital and production yields. While social capital is widely recognized as a key contributor to firm performance, its impact may vary across entrepreneurial sectors. In the context of farm production, access to strong networks can positively influence output by providing valuable advice on best practices—such as optimal farm layout, suitable crop and livestock varieties, and effective disease control strategies aimed at maximizing productivity.

The positive yet statistically insignificant influence of social capital on production yields may be explained by the greater importance of other factors—such as the quality of inputs including seeds, fertilizers, feed, and disease control measures—which are likely to have a more direct and significant impact on production outcomes (Fortunato & Valdivia, 2023).

Future research could focus on operationalizing the three forms of entrepreneurial capital introduced in this study and evaluating the individual impact of each on small-scale farm performance. This would allow for a comparative ranking based on their level of influence. Such insights could guide the development of institutional systems and support structures aimed at enhancing small-scale farmer performance, ultimately contributing to improved food production, food security, and employment creation.

5.6 Conclusion

In conclusion, thoroughly operationalizing and differentiating the three forms of entrepreneurial capital -human, social, and financial- will be crucial for advancing our understanding of their specific impacts on small-scale farm performance. By systematically evaluating and ranking these capital dimensions, future research can identify which factors exert the greatest influence on productivity and revenue generation. These insights will be invaluable for policymakers, development agencies, and institutional actors seeking to design targeted support mechanisms and resource allocation strategies. Strengthening the most impactful forms of entrepreneurial capital can empower small-scale farmers to overcome structural challenges, improve their productivity, and contribute meaningfully to food security and rural economic development. Ultimately, such evidence-based interventions will not only boost farm-level performance but also drive broader socioeconomic benefits, including increased employment opportunities and poverty reduction in rural communities.

6 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This section provides and overall wrap up of the research report analysing the influence of entrepreneurial capital on small scale farm performance focusing on Namibia's small-scale farm sector. It provides a summary of the key outcomes of the research, outlines the contributions of the research to literature and make recommendations on how the outcomes of the research can be useful in various contexts. The section concludes by suggesting areas for further research in line with this work to enlarge the body of knowledge and enable robust conclusion to be made for accurate policy decisions to be made.

6.2 Summary of results

This study examined the influence of three dimensions of entrepreneurial capital -human capital, social capital, and financial capital- on farm performance, measured by production yields and farm revenues. However, the scale used to measure financial capital did not meet validity criteria, as it lacked a sufficient number of items (three or more) to form a reliable construct and was therefore excluded from further analysis. Consequently, the analysis focused on the two remaining forms of capital -human and social capital- as independent variables, and two measures of farm performance -production yields and farm revenues- as dependent variables. These variables satisfied the requirements for factor extraction and were included in the subsequent analysis.

After the exploratory factor analysis, only four of the initial six hypotheses qualified for further analysis, as one independent variable was excluded. Reliability and assumption tests were then conducted to ensure the data met the minimum requirements for consistency and that no assumptions were violated before proceeding with regression analysis. The regression results showed a negative, though statistically insignificant, effect of human capital on both farm revenues and production yields. This outcome may be due to the broad nature of human capital, highlighting the need to disaggregate it into more specific sub-dimensions to accurately identify which aspects positively influence farm performance. Additionally, measuring human capital by proxy indicators such as enrolment numbers rather than actual competence and practical productivity may obscure its true impact. Furthermore, the cost associated with

maintaining high human capital could be burdensome for small-scale farms, negatively affecting their revenue and production outcomes.

Social capital was found to have a positive and statistically significant impact on farm revenues, as well as a positive but statistically insignificant effect on production yields. These results highlight the significant potential of social capital to mitigate individual risks faced by farmers by facilitating access to markets and valuable information through social networks—resources that would otherwise be costly for individual farmers to obtain. The findings suggest that social capital positively influences small-scale farm performance, and that strategic investments in this form of capital could enhance the overall productivity and revenue generation of the small-scale farming sector. In contrast, human capital exhibited a negative relationship with farm performance at the small-scale level, which may be due to the varying methods used to operationalize and measure human capital. Additionally, the high costs associated with maintaining human capital may impose a financial burden on small-scale farms, negatively affecting their performance.

6.3 Implications of research

The finding that human capital exhibits a negative correlation with small-scale farm performance -measured through farm revenues and production yields- provides important insights into its actual impact within this context. Specifically, the results suggest that human capital, as it is currently conceptualized and measured, does not play a significant or limiting role in enhancing the productivity or profitability of small-scale farms in Namibia. This challenges common assumptions that increased education or general skill levels necessarily translate into better farm outcomes at this scale. Consequently, these findings contribute a nuanced perspective for policymakers and sector investors, indicating that human capital development may not be the most effective priority when aiming to boost small-scale farm performance in Namibia. Resources and efforts might be better allocated elsewhere to yield more immediate and measurable improvements.

Conversely, social capital demonstrated a clear and positive influence, particularly on farm revenues, with a statistically significant effect observed. Although its influence on production yields was positive but not statistically significant, the overall role of social capital emerges as a crucial factor in driving farm performance. This highlights the importance of social networks,

collective action, and information sharing among small-scale farmers, which can facilitate better market access, resource pooling, risk-sharing, and adoption of improved farming practices. These dynamics are essential for enabling farmers to overcome barriers that individual efforts alone cannot surmount.

Therefore, this study underscores social capital as a critical area for targeted investment and policy intervention. By fostering stronger social networks and cooperative structures among small-scale farmers, Namibia's agricultural sector can more effectively stimulate productivity growth and enhance economic outcomes. Prioritizing social capital development aligns with the practical realities of small-scale farming and offers a promising pathway for sustainable sector advancement and rural development.

6.4 Limitations

This research aimed to analyze the impact of three key entrepreneurial capital dimensions—human capital, social capital, and financial capital—on two measures of small-scale farm performance: farm revenues and production yields. However, during the exploratory factor analysis, the measurement scale for financial capital failed to meet the required criteria for factor convergence, as it did not include a sufficient number of valid items to form a reliable construct. As a result, financial capital could not be included in the subsequent analyses. Additionally, due to time constraints, the researcher was unable to collect additional data that might have allowed for the inclusion of this critical independent variable as initially planned.

The exclusion of financial capital limited the scope of the study and constrained the ability to comprehensively assess and compare the relative influence of all three forms of entrepreneurial capital on small-scale farm performance. Consequently, the study's findings provide insights only into the effects of human capital and social capital, preventing a more robust and holistic understanding of which capital dimension carries the greatest weight in influencing farm outcomes. This limitation also restricts the capacity to offer clear, evidence-based guidance for policymakers and investors regarding the prioritization of resources across these entrepreneurial capital domains.

Moreover, the study did not extend to decomposing each of the independent variables into more specific sub-components—such as breaking human capital down into education, skills, and

experience, or dissecting social capital into bonding, bridging, and linking networks—to examine their differentiated effects on farm performance. Such a detailed analysis would require a broader dataset and more complex modeling, which were beyond the scope and limitations of the current research. Future studies are therefore encouraged to undertake a more granular exploration of these sub-dimensions to better understand the nuanced pathways through which various forms of entrepreneurial capital influence small-scale farm productivity and revenue generation.

6.5 Recommendations for future research

Given the broad and multifaceted nature of human capital, future research should aim to operationalize this concept more precisely by disaggregating it into distinct sub-dimensions such as skills, experience, and formal education. By measuring each of these components individually against farm revenue, researchers can identify which specific aspects of human capital exert a positive and significant influence on farm financial performance. This nuanced approach would provide clearer guidance on where to focus capacity-building efforts and policy interventions to maximize impact.

Additionally, expanding the dataset by including a larger and more diverse sample of small-scale farms would enhance the statistical power of the analysis and may help address the current findings of insignificance related to human capital. A more extensive data collection effort would allow for more robust conclusions and potentially reveal subtler relationships that smaller samples might obscure.

Furthermore, future studies should seek to develop or adopt improved measurement scales for financial capital that include a greater number of reliable and valid items. Achieving factor extraction convergence for financial capital would enable its inclusion in comprehensive analyses alongside human and social capital. This would allow researchers to rank the relative influence of all three dimensions of entrepreneurial capital on small-scale farm performance accurately.

Such comprehensive analysis is critical for informing national investment and policy decisions, enabling stakeholders to allocate resources effectively toward the capital dimensions that most strongly drive farm productivity and profitability. Ultimately, this will support the growth and

development of the small-scale farming sector, enhancing its contribution to Namibia's overall economic output and national GDP.

6.6 Conclusion

This section has provided a thorough synthesis of the research examining the impact of entrepreneurial capital on the performance of small-scale farms in Namibia. It highlighted the key findings, demonstrating how human and social capital influence farm revenues and production yields, and situated these results within the broader body of existing literature. The analysis emphasized the practical relevance of these findings in shaping policy and guiding investment decisions, underscoring the critical role of social capital as a driver of farm performance while challenging conventional assumptions about the role of human capital in this context.

Moreover, the section openly discussed the limitations inherent in the study, including data constraints and measurement challenges, which affected the comprehensiveness and generalizability of the results. By acknowledging these gaps, the research provides a transparent foundation for understanding the current evidence and points to important avenues for future investigation. Specific recommendations were made for further research to disaggregate entrepreneurial capital into more precise components, expand sample sizes, and develop more robust measurement tools—particularly for financial capital—to enable more nuanced and definitive conclusions.

Ultimately, this section underscores the importance of ongoing inquiry and evidence-based decision-making to optimize support for Namibia's small-scale farming sector. By refining our understanding of the various dimensions of entrepreneurial capital and their distinct influences on farm productivity, policymakers and stakeholders can better allocate resources and design interventions that enhance agricultural performance, foster economic growth, and contribute to rural development.

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8.APPENDICES

A: Consistency Matrix

Problem Statement: There is limited data available on the drivers of production productivity especially within the Namibian small-scale farming sector. This research aims to establish the significance of the role played by entrepreneurial capital on farm performance.							
Research Topic: The influence of entrepreneurial capital on farm performance in Namibia's agricultural entrepreneurship sector at small-scale farm level.							
Sub-Aims/Objectives	**Literature Review**	**Hypotheses/Propositions**	**Research Questions**	**Variables (Independent & Dependent)**	**Source of Data**	**Type of Data**	**Analysis**
					Survey Questionnaire (Qualtrics) Question: 1 - 4 (Consent and demographics)	Nominal data	
1. To investigate the influence of Social capital on farm revenues	-Network theory, -Learning theory, -Resource-based theory -Real options theory	**H1:** Human capital positively influences farm revenues	What influence does Human capital have on farm revenues?	IV 1= Human capital DV1 = Farm Revenues	Question: 5,9 Human Capital (DV1)	Ordinal	***nb:*** Correlation Analysis, Statistical tests,

	Entrepreneurship theory (Schröder et al., 2021)						Regression Analysis, Factor analysis
2. To investigate the influence of Social capital on farm revenues		**H2:** Social capital positively influences farm revenues	What influence does social capital (have on farm revenues	IV 1= social capital DV2 = Farm revenues	Question: 6, 9	Ordinal	
3. To assess the influence of human capital on farm production yields.		**H3:** human capital positively influences farm production yields	What influence does human capital have on production yields?	IV2= Social capital DV1 = Production yields	Survey Questionnaire: Questions: 5, 8	Ordinal	

4. To assess the influence of social capital on production yields.		**H4:** Social capital positively influences production yields		IV 2= Social capital DV2 = production yields	Questions: 6, 8	Ordinal	
5. To investigate the influence of financial capital on farm production yields		**H5:** Financial capital positively influences farm production yields	What influence does financial capital have on production yields?	IV3= Financial capital DV1 = Production yields	Questions: 7,8	Ordinal	
6. To investigate the influence of financial capital on farm production revenues		**H6:** financial capital positively influences farm revenues	What influence does financial capital have on farm revenues?	IV3= Financial Capital DV2 = Farm revenues	Survey Questionnaire: Questions: 7,9	Ordinal	

B: Research Questionnaire

Start of Block: Informed Consent Form

Investigating the relationship between farm performance and entrepreneurial capital in Namibia's agricultural sector at small-scale farm level

Purpose
The Informed Consent Form is designed to confirm that the participant has been given all relevant information about the research and their role within it, and how both the researcher and participant are protected.

Please read the following statements fully and carefully. By proceeding to take the questionnaire, you are giving your consent.

Summary

1. I volunteer to take part in this Master's research questionnaire. I understand that the research aims to collect data on the relationship between entrepreneurial capital and farm performance in Namibia's small scale farm sector.

2. The data collected in this questionnaire will be used in a Master's thesis and contribute to the body of knowledge on agricultural entrepreneurship.

3. I confirm that I have been given a copy, and read, the Participant Information Sheet and fully understood the information it contains.

4. I understand that my participation in this project is voluntary. I will not be paid for my involvement.

5. I am free to withdraw from the project at any time, without reason.

6. I have read and understood that all data provided will be treated in strict confidence, and that my name and organization will be anonymized.

7. I understand that this research has been approved by Coventry University Ethics Committee.

8. I have read and understood the explanation of the research project provided to me.

I have had the opportunity to ask any questions and they have been answered to my satisfaction.

By proceeding to take this questionnaire, I agree to take part in this research project and to the above 8 statements.

Any statements I have concern with I will discuss with the principal researcher prior to commencing.

- ○ Yes, I consent (1)
- ○ No, I do not consent (2)

Skip To: End of Survey If QID1 = 2

End of Block: Informed Consent Form

Start of Block: Part 1: Demographics

Q1 Age group

- ○ 18 - 29 (1)
- ○ 30 - 39 (2)
- ○ 40 - 49 (3)
- ○ 50 - 59 (4)
- ○ 60+ (5)

Q2 Gender

- Male (1)
- Female (2)
- Non-Binary (3)
- Prefer not to say (4)

Q3 Level of education

- None (1)
- Primary education (2)
- Secondary education (3)
- Tertiary education (4)

Q4 Type of farm operation

- Crop farming (1)
- Livestock farming (2)
- Mixed Farming (3)

End of Block: Part 1: Demographics

Start of Block: Entrepreneurial = Capital

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
It is important to keep yourself up-to-date with the newest information about farming (1)	○	○	○	○	○	○	○
Keeping the farm records up-to-date is important to me (2)	○	○	○	○	○	○	○
I like to try new management practices in my farm (3)	○	○	○	○	○	○	○
Modern record keeping systems/data management programs are unimportant in farming (4)	○	○	○	○	○	○	○
It is important to visit other farms and get to know their working methods (5)	○	○	○	○	○	○	○
It is important to keep your knowledge up-to-date (6)	○	○	○	○	○	○	○

It is important to be aware of new products being used in farming (7)	○	○	○	○	○	○	○

Q5 Human Capital

Please tick ONE box that indicates your level of agreement with the following statements on a scale of 1 - 7.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Our business networks (clients, suppliers, suppliers of equipment, material and components, or consultancy firms) give us information which assists us with firm strategy. (1)	○	○	○	○	○
The professional associations we are a part of have contributed to our firms' strategy (e.g NNFU, NAU, NECFU, PDFU). (2)	○	○	○	○	○
Information that we receive/observe from other firms is valuable when we make strategy. (3)	○	○	○	○	○
Trade fairs and exhibitions, professional conferences, meetings and trainings, internet- or computer-based information networks or patent documents help guide our strategy. (4)	○	○	○	○	○

I personally know managers and professionals working in institutions involved with the promotion of economic development; researchers working on studies relating to my products and my clients and suppliers (5)	○	○	○	○	○

Q6 Social Capital

Please tick ONE box that indicates your level of agreement with the following statements on a scale of 1 - 7.

Q7 Financial Capital

Please tick ONE box that indicates your level of agreement with the following statements on a scale of 1 - 7.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I was able to find my own funds to start my business (1)	○	○	○	○	○
In starting the business, finding funding was the biggest obstacle (2)	○	○	○	○	○
Obtaining financing proved to be more difficult than creating and operating the business (3)	○	○	○	○	○
I get a lot of information on how to obtain business funding through media such as newspaper, social media etc. (4)	○	○	○	○	○
I know how to obtain investment funding for my business (5)	○	○	○	○	○

End of Block: Entrepreneurial = Capital

Start of Block: Performance

Q8 Farm Revenues

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I have enough years of farming experience to know exactly how to maximize my profit (1)	○	○	○	○	○	○	○
I have all the tools required to provide high quality products from my farming activity (2)	○	○	○	○	○	○	○
My farm is large enough to produce the required profit (3)	○	○	○	○	○	○	○
I can borrow the financial resources required to leverage my farming activity (4)	○	○	○	○	○	○	○
There are competent people	○	○	○	○	○	○	○

working with me to help me to grow and harvest high quality products (5)							
I can and I do feed my crops/animals well for them to be healthy and produce high quality products (6)	○	○	○	○	○	○	○

Q8 Production Yields

Please tick ONE box that indicates your level of agreement with the following statements on a scale of 1 - 7.

Q9 Farming Business Revenues

Please tick ONE box that indicates your level of agreement with the following statements on a scale of 1 - 7.write the question text

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
The farm sales have increased over the last year (1)	○	○	○	○	○
The number of customers have increased over the last year (2)	○	○	○	○	○
The farm's suppliers have increased over the last year (3)	○	○	○	○	○
The farm's number of deliveries has increased (4)	○	○	○	○	○
The farm has been able to achieve its sales objectives (5)	○	○	○	○	○

End of Block: Performance

C: Ethics Clearance