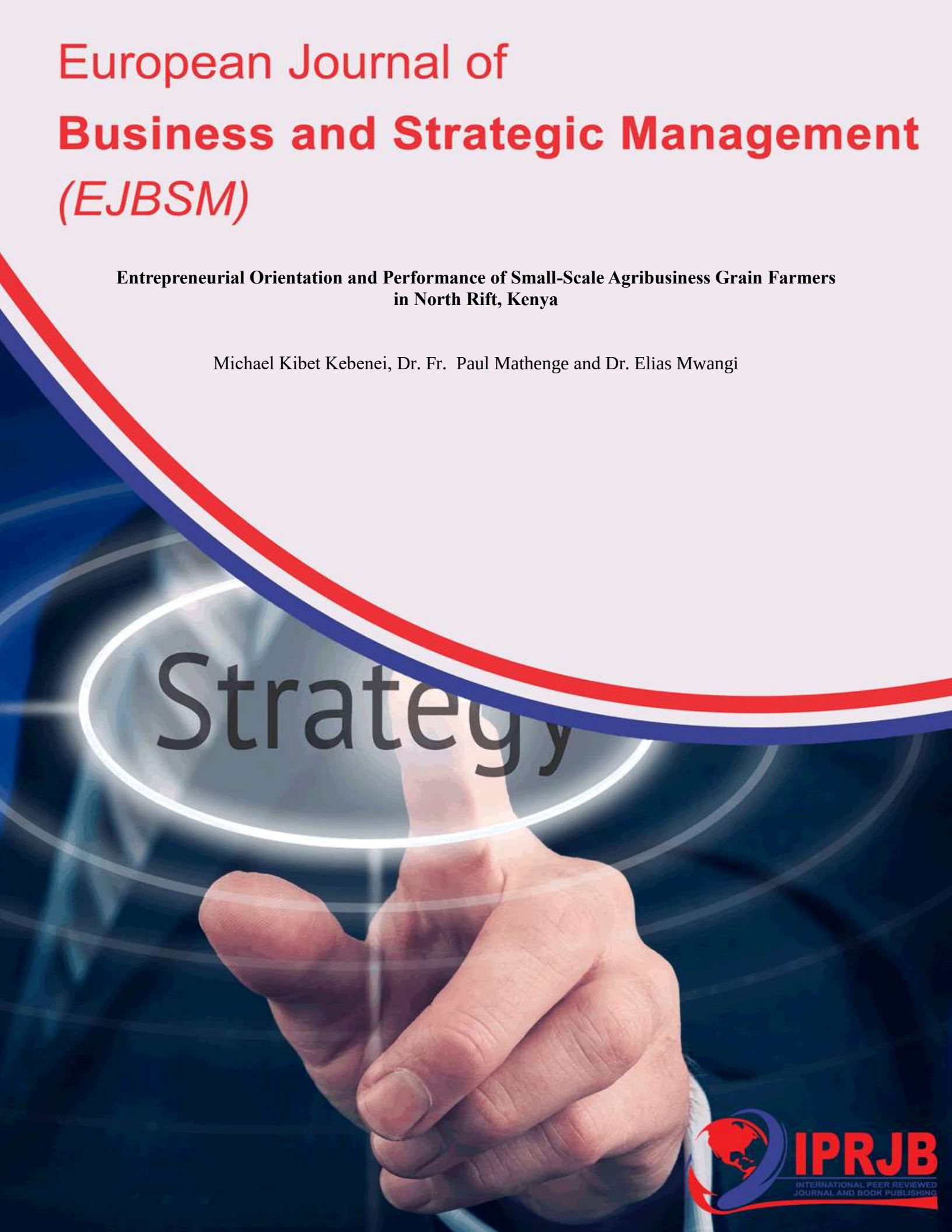
European Journal of
Business and Strategic Management
(EJBSM)

Entrepreneurial Orientation and Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya

Michael Kibet Kebenei, Dr. Fr. Paul Mathenge and Dr. Elias Mwangi



IPRJB
INTERNATIONAL PEER REVIEWED JOURNAL AND BOOK PUBLISHING

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025

www.iprjb.org

Entrepreneurial Orientation and Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya

[1]Michael Kibet Kebenei
PhD Student, The Catholic University of Eastern Africa

[2]Dr. Fr. Paul Mathenge
Lecturer, The Catholic University of Eastern Africa

[3]Dr. Elias Mwangi
Lecturer, The Catholic University of Eastern Africa

Article History

Received 9th July 2025

Received in Revised Form 12th August 2025

Accepted 3rd September 2025

How to cite in APA format:

Kebenei, M., Mathenge, P., & Mwangi, E. (2025). Entrepreneurial Orientation and Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya. *European Journal of Business and Strategic Management*, *10*(5), 63–92. https://doi.org/10.47604/ejbsm.3492

Abstract

Purpose: This study sought to determine the influence of entrepreneurial orientation and performance of small-scale agribusiness grain farmers in North Rift, Kenya. Further the study sought to determine the influence of entrepreneurial innovation, pro-activeness, risk-taking, competitive aggressiveness and autonomy on the performance of small-scale agribusiness grain farmers in North Rift, Kenya.

Methodology: The study adopted the positivist research philosophy and descriptive survey research design was utilized. Target population included 497,737 small-scale agribusiness grain farmers in North Rift, Kenya. Yamane's Formula of sample size determination was applied to derive a sample size of 400 respondents. Questionnaire was used for data collection. SPSS version 25 was applied in analyzing the data collected. The quantitative data comprised of the descriptive and inferential statistics. Descriptive statistics were summarized into percentages, mean and the standard deviation which was presented using figures, frequency tables and pie-charts. Inferential statistics were applied to test the hypothesis for the study.

Findings: The findings showed that Innovation and performance of small-scale agribusiness grain farmers has a positive and significant relationship. Moreover, it was also established that pro-activeness, risk taking, competitive aggressiveness, and entrepreneurial autonomy significantly predicted the performance of small-scale agribusiness grain farmers in North Rift, Kenya. Entrepreneurial characteristics had a statistically significant moderating effect on the relationship between entrepreneurial orientation and performance of small-scale agribusiness grain farmers in North Rift, Kenya.

Unique Contribution: The study recommended , small-scale grain farmers to embrace entrepreneurial orientation, research institutions to contact regular market research, government institution to enact policies that support entrepreneurial orientation and training institutions to contact educational training, there is a need for educational institutions to integrate entrepreneurial innovativeness, risk management, pro-activeness, competitiveness, business autonomy and entrepreneurial characteristic into agricultural curricula to equip future farmers with the necessary skills.

Keywords: *Agency Theory, CEO Duality, Firm Performance, Nairobi Securities Exchange*

JEL Codes: *D23, G34, L25, G15*

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

INTRODUCTION

Globally, entrepreneurship is recognized as a key driver of economic growth, innovation, and individual empowerment (Boldureanu et al., 2020). Entrepreneurial orientation (EO) is defined by innovation, pro-activeness, risk-taking, competitive aggressiveness, and autonomy. It has emerged as a strategic framework for enhancing business performance, particularly among SMEs (Okoli et al., 2021). EO enables firms to anticipate market needs, take calculated risks, and aggressively pursue competitive advantage. Empirical studies across countries such as Malaysia, China, and the United States have demonstrated that EO improves profitability, adaptability, and resilience (Gottschalck et al., 2024). Entrepreneur characteristics such as education, gender, and experience also influence entrepreneurial success and may moderate the EO-performance relationship (Kyari, 2020).

In Africa, agribusiness is a vital sector for economic development, yet small-scale farmers face persistent challenges including limited access to inputs, poor infrastructure, and weak market linkages (Atube et al., 2021). Despite being major producers of crops like cassava, cocoa, and oilseeds, countries such as Nigeria, Côte d'Ivoire, and Ethiopia struggle to capture value due to underdeveloped processing and packaging industries (Ekott, 2021). Entrepreneurial orientation offers a pathway for African farmers to overcome these constraints by fostering innovation, autonomy, and market responsiveness (Alqahtani et al., 2024). However, the adoption of EO in agribusiness contexts is often constrained by systemic factors such as policy incoherence, limited extension services, and entrenched cultural attitudes toward risk and innovation. These structural barriers may inhibit the translation of EO into tangible performance gains, particularly where institutional support is weak or misaligned with entrepreneurial needs (Sarfaz et al., 2024).

In Kenya, agribusiness contributes significantly to poverty reduction and rural development, with SMEs accounting for over 70% of commercial agricultural output (Ministry of Agriculture, 2021). The North Rift region produces over 50% of the country's maize (KNBS, 2022), yet small-scale grain farmers face challenges such as postharvest losses, high input costs, poor storage, and limited market information (Kumar & Kalita, 2017). While government programs have attempted to address these issues, EO adoption among farmers in North Rift remains uneven and underleveraged. Unlike Western Kenya, where farmer cooperatives and donor-funded innovation hubs have promoted entrepreneurial practices, or Eastern Kenya, where climate-resilient agribusiness models are gaining traction, North Rift has historically lacked targeted EO policy interventions. The region's dominance in maize production has often led to a production-centric mindset, with limited emphasis on entrepreneurial diversification or market-driven innovation. Enhancing farmers' entrepreneurial capacity in this context therefore requires not only individual initiative but also systemic support to overcome institutional inertia and foster a culture of agripreneurship (Waqingah, 2022).

Problem Statement

Entrepreneurial orientation (EO) is defined by innovation, proactiveness, risk-taking, autonomy, and competitive aggressiveness. It is widely expected to enhance agribusiness performance by equipping farmers to navigate uncertainty and seize market opportunities (Simbeko et al., 2023). Yet, over 70% of small-scale agribusiness grain farmers continue to face persistent challenges such as limited access to finance, poor marketing infrastructure, weak value chain linkages, and low

technology adoption (Okpiri, 2017). In Kenya's North Rift region, which produces the bulk of the country's maize, many farmers remain in poverty, unable to meet basic needs or achieve financial stability (Kebenei et al., 2021). This not only affects agricultural productivity but also contributes to youth disengagement from farming, threatening long-term food security. EO behaviors like innovation and autonomy could make farming more attractive to youth by enhancing profitability, promoting independence, and shifting perceptions of agriculture from subsistence to opportunity-driven enterprise.

Despite the theoretical promise of EO, its practical impact on small-scale grain farmers in North Rift remains underexplored. Prior studies have examined EO in agribusiness contexts such as Kiambu County (Waithaka et al., 2016), Eastern Kenya (Makini et al., 2018), and Dodoma City, Tanzania (George, 2025), but none have addressed the unique dynamics of grain farming in North Rift. Unlike horticulture or livestock farming, grain farming involves bulk production, seasonal price volatility, and significant postharvest storage risks. These features demand strategic foresight, risk management, and market responsiveness making its application in grain farming both distinctively relevant and operationally complex. This study therefore seeks to fill both a contextual and geographical gap by assessing how EO influences performance among small-scale agribusiness grain farmers in the region, and whether entrepreneur characteristics like education, gender, and experience, moderate this relationship. The findings aim to inform targeted interventions that strengthen agripreneurship and improve agricultural outcomes.

Theoretical Framework

This study is anchored on three core theories that collectively illuminate the dimensions of entrepreneurial orientation (EO): Schumpeter's Innovation Theory, McClelland's Psychological Theory, and Knight's Uncertainty Bearing Theory. Schumpeter (1911) posits that entrepreneurship drives economic development through innovation which is defined as the application of new products, processes, and market strategies. This theory directly informs the EO dimension of innovation, particularly in grain farming where farmers must adopt improved techniques, diversify markets, and optimize postharvest handling to remain competitive. However, Schumpeter's emphasis on radical innovation overlooks the incremental and adaptive innovations more common among resource-constrained farmers in North Rift. In this context, innovation is less about disruption and more about survival. Therefore, making Schumpeter's framework useful but requiring contextual reinterpretation.

McClelland's Psychological Theory (1961) complements this by framing proactiveness and autonomy as expressions of achievement motivation. Farmers with high n-Ach are more likely to anticipate market shifts, take initiative, and assert control over production decisions. These traits are essential for navigating North Rift's volatile agricultural landscape. Yet, McClelland's theory assumes that psychological traits are internally cultivated and universally expressed, which may not hold in environments where social norms discourage risk or where education systems fail to nurture entrepreneurial agency. Moreover, autonomy in subsistence farming is often constrained by cooperative structures, land tenure systems, and gendered decision-making hierarchies. Thus, while McClelland's lens helps explain individual entrepreneurial behavior, it must be situated within broader socio-cultural and institutional contexts.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Knight's Uncertainty Bearing Theory (1957) underpins the EO dimension of risk-taking, emphasizing the entrepreneur's role in bearing non-insurable, unpredictable risks. This is particularly relevant for small-scale grain farmers who face fluctuating weather patterns, unstable input prices, and market volatility. However, Knight's assumption of rational judgment under uncertainty is problematic in subsistence settings, where decisions are often shaped by incomplete information, survival imperatives, and informal knowledge systems. Supporting theories such as Casson's Economic Theory and Drucker's Opportunity-Based Theory offer structural and strategic insights into competitive aggressiveness and opportunity recognition, respectively. Casson highlights how economic enablers like finance and infrastructure shape entrepreneurial behavior, while Drucker emphasizes the ability to exploit external changes. Together, these theories provide a multidimensional lens for understanding how EO manifests among small-scale agribusiness grain farmers in North Rift, Kenya, where entrepreneurial success depends not only on individual traits but also on systemic support and contextual adaptability.

Conceptual Framework

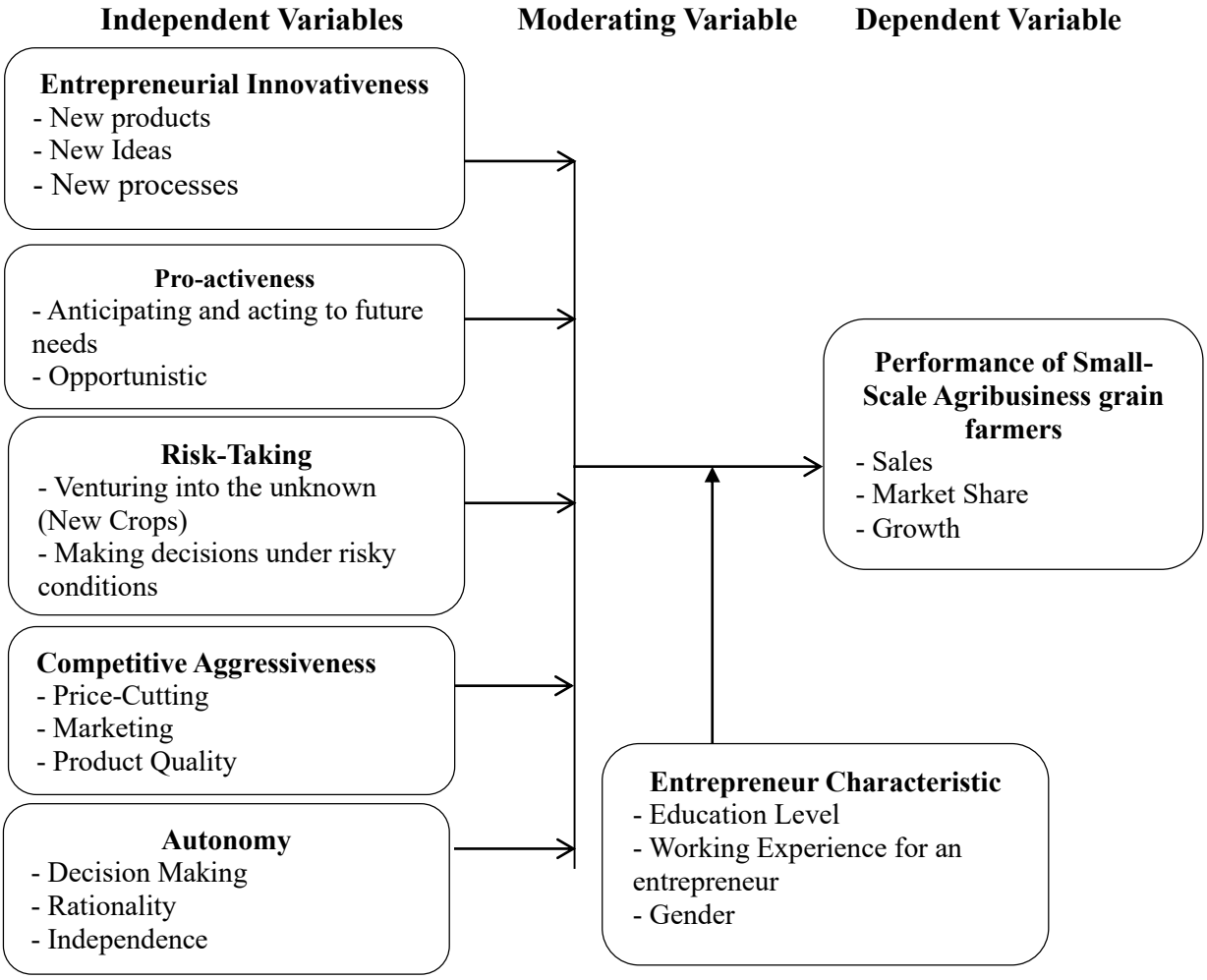


Figure 1: Conceptual Framework

Empirical Review

Fan et al. (2021), investigated the impact of entrepreneurial orientation (EO) on social media (SM) adoption and SME performance in developing countries, using the resource-based view (RBV) as the conceptual framework. Data from 423 SMEs in Pakistan were analyzed using PLS-SEM. The study found strong correlations among EO, SM adoption, innovation capacity (IC), and SME performance, with IC serving as a partial mediator. While the research highlighted the role of innovation in enhancing SME productivity, it was conducted in a non-agricultural context and did not address small-scale agribusiness grain farmers. Moreover, it overlooked critical contextual factors such as farmer characteristics and regional agricultural dynamics, limiting its applicability to agribusiness settings like North Rift, Kenya. Future studies should explore how EO interacts with digital adoption (e.g., mobile platforms, market apps) in agribusiness contexts, particularly among grain farmers facing infrastructural and literacy constraints.

Dost and Ali Umrani (2024), applied resource-based and stakeholder theories to examine the relationship between frugal innovation and firm financial and environmental performance, with managerial proactiveness as a moderating variable. Analyzing data from 580 CEOs in emerging markets, the study found that frugal innovation significantly improves both financial and environmental outcomes, and that managerial proactiveness strengthens these effects. However, the study treated proactiveness as a moderator, whereas the current study considers it an independent variable making it. This opens a gap for future research to examine proactiveness as a standalone EO dimension in agribusiness, assessing its direct influence on performance outcomes such as market expansion, input efficiency, and resilience among small-scale grain farmers.

Chinyelu and Konya (2020), investigated whether competitive aggressiveness among event management companies in Port Harcourt, Nigeria influenced their financial success. Using a cross-sectional survey of 66 managers, the study employed SPSS and Pearson correlation analysis and found that competitive aggression significantly affected efficiency and profitability. However, the study was limited to the service industry and did not explore competitive aggressiveness within the agribusiness sector, particularly among small-scale grain farmers. It also failed to examine how competitive aggressiveness interacts with other entrepreneurial orientation dimensions or consider contextual factors such as farmer characteristics and regional agricultural dynamics, highlighting a conceptual gap relevant to agribusiness in North Rift, Kenya. Future studies should investigate how competitive aggressiveness functions in commodity-based agriculture, where market saturation, price volatility, and cooperative dynamics may alter its strategic relevance.

A study by Usoroh (2024) examined the effect of autonomy on Small and Medium Scale Enterprises (SMEs) growth using selected registered SMEs in North Central States, Nigeria. This study adopted a survey research design. The population used was 13,378 registered SMEs in the six states in North-Central and FCT-Abuja. The sample size of 388 was determined using the Taro Yamane formula. The study utilized a questionnaire for data collection. PLS-SEM was used to analyze the data. The study found that autonomy was positive but insignificantly affect SMEs' growth (GRW) in North Central, Nigeria. This suggests a need for future research to examine whether autonomy has sector-specific effects, particularly in agribusiness where decision-making may be constrained by cooperative structures, land tenure systems, and gender norms, especially among small-scale grain farmers.

Sarwoko, Armanu, and Hadiwidjojo (2023), examined how entrepreneurial traits and skills influence SME performance in East Java, Indonesia, using survey data from 147 business owners and structural equation modelling. The study found that entrepreneurial traits significantly affect business performance, with entrepreneurial skills mediating this relationship. However, the study did not conceptualize entrepreneurial orientation as a multidimensional construct, including autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness. It also did not focus on agribusiness enterprises, particularly small-scale grain farmers, whose performance is shaped by sector-specific dynamics such as market access, climate variability, and resource constraints. This limits the applicability of the findings to agribusiness contexts like North Rift, Kenya. Future studies should adopt a multidimensional EO framework and test its predictive power across different agribusiness sub-sectors, including grain farming, to capture the strategic complexity of entrepreneurial behavior in agriculture.

Putta (2023), explored the relationship between entrepreneurial traits and financial performance among SMEs in Pune, India, using survey data from 210 respondents. The study found that traits such as risk-taking, innovativeness, self-confidence, achievement drive, and locus of control positively influenced financial performance. However, the study emphasized psychological traits rather than strategic dimensions of entrepreneurial orientation like autonomy, proactiveness, and competitive aggressiveness. It also did not examine these dynamics within the agribusiness sector, where entrepreneurial behavior is shaped by environmental constraints, production cycles, and market volatility, limiting its relevance to small-scale grain farmers in North Rift, Kenya. Future research should integrate psychological and strategic EO dimensions to assess how internal traits and external behaviors jointly influence agribusiness performance, especially in volatile grain markets.

METHODOLOGY

In this study, the positivism philosophy was adopted. Descriptive survey design was considered relevant for this study. There were 497,737 small-scale agribusiness grain farmers according to Kenya National Cereal and Produce Board Fertilizer subsidies distribution Programme 2023 in the region which comprises of six counties namely West Pokot, Elgeyo Marakwet, Baringo, Nandi, Uasin Gishu, and Trans Nzoia. The small-scale agribusiness grain farmers were targeted in this study because they held a large percentage in the agribusiness sector. The formula developed by Taro Yamane in 1967 was used to obtain a sample size of 400 small-scale agribusiness grain farmers. Through the use of a stratified random sampling method, the selection of the four hundred small-scale agribusiness grain producers who were going to be included in this study was accomplished. The farmers were then categorized according to the different counties which formed the strata of the study. From the strata, the study then selected the small-scale agribusiness grain farmers randomly from the list until the desired sample size for each county was achieved. Formalized questionnaires served as the primary means of data collection for this investigation. The Likert scale was used in questions due to its ease of construction, response quantification and ranking of times for the purpose of identifying tendencies. The institution issued a letter of approval to the inquiry so that it could gather data. A research authorization was given to the study by the National Council of Science, Technology, and Innovation (NACOSTI), in addition to the research authorization letter. A random selection was used to pick respondents, and they were informed of the aims of the research. The questionnaires were sent out to the respondents once

they had indicated that they were willing to take part in the study. The research assistants were not only present but also actively participated in the process of data gathering. A follow-up was carried out in order to ensure that all of the surveys were correctly filled out and returned in a timely way so that they could be analyzed. During the course of this investigation, both the validity and reliability of the research tools were examined. The validity of the instruments was established by taking into consideration the suggestions that were supplied. A method known as Cronbach Alpha was used in order to ascertain the reliability of the surveys via the utilization of SPSS. The research instruments had Cronbach reliability coefficient values greater than 0.7 leading to the conclusion that the instruments could be trusted. Following the completion of the data cleansing procedure, data was analyzed using SPSS version 24. Frequencies, standard deviations, and means were computed to provide a concise summary of the quantitative data. Both descriptive and inferential statistics were used to examine the quantitative data. The data that had been condensed using percentages, averages, and standard deviation was shown visually using pie charts, bar graphs, and frequency tables, which were part of the descriptive statistics. The approach of inferential analysis included both correlation and regression analysis. The following equation shows the results of the regression investigation, which utilized a basic linear regression:

$$Y = A + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

The moderating equation model, on the other hand, was provided by:

$$Y' = A + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 (X_1 * M) + \beta_7 (X_2 * M) + \beta_8 (X_3 * M) + \beta_9 (X_4 * M) + \beta_{10} (X_5 * M) + \varepsilon$$

RESULTS

Response Rate

The study's sample size was 400 small-scale agribusiness grain producers from the North Rift area of Kenya. A response rate of 99.8 percent was therefore achieved. This response rate was considered appropriate and very effective for this study.

Descriptive Statistics

Entrepreneurial Innovation and Performance of Small-Scale Agribusiness Grain Farmers

Researchers in this study set out to quantify the impact that entrepreneurial innovation had on the output of North Rift, Kenya's small-scale agribusiness grain growers. The respondents were asked to rate how much they agreed or disagreed with certain assertions so that we might reach this goal. Table 1 reveals the results.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 1: Entrepreneurial Innovation

Statement	SA	A	UD	D	SD	μ	σ
Adopting new ideas of marketing and sharing my agricultural products with the customers has improved my performance.	39.8%	56.1%	2.5%	1.0%	0.5%	1.689	.813
We receive training on how to incorporate new ideas for better yields in the agribusiness.	31.1%	53.1%	4.0%	7.3%	4.5%	2.01	1.024
I have redesigned the agricultural process in my business in order to reduce the input cost and increase returns.	32.8%	54.1%	8.3%	3.5%	1.3%	1.85	.789
Introducing new products in my small agribusiness has improved my performance.	36.1%	52.9%	6.3%	3.0%	1.8%	1.81	.817
Overall, entrepreneurial innovation has boosted the performance of my agribusiness.	30.8%	50.4%	7.8%	6.0%	5.0%	2.04	1.038
Average						**1.88**	**0.896**

On the questions pertaining to entrepreneurial innovation, the average mean score was 1.88, and the standard deviation was 0.896. This indicated that the majority of those who participated in the poll had a favourable opinion on the remarks. The outcomes of the study were supported by research conducted by authors such as Ali, Khalid, and Bashir (2021). Their research demonstrated how novel marketing strategies, such as direct consumer engagement and digital marketing platforms, have significantly increased sales and profitability for small-scale farmers. Additionally, Kilelu, Klerkx, & Leeuwis (2020), found that training programs focused on new agricultural technologies and practices were critical in improving productivity and sustainability in small-scale farming.

Regarding the redesigning of agricultural processes, Mwangi and Kariuki (2019) indicated that process innovations, including improved planting techniques and resource management strategies, are crucial for enhancing the economic performance of small-scale agribusinesses. In terms of introduction of new products, Studies such as those by Muriithi, Bett, and Ogola (2022) have shown that diversification through the introduction of new products helps small-scale farmers mitigate risks and tap into new market opportunities, thereby improving overall business performance.

Pro-activeness and Performance of Small-Scale Agribusiness Grain Farmers

This study was further set to find out how pro-activeness influences the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The responses given by the small-scale agribusiness grain farmers are as summarized below.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 2: Pro-activeness

Statement	SA	A	UD	D	SD	μ	σ
Striving to satisfy the needs of my customers through my agricultural products has improved the performance of the business.	32.1%	63.7%	3.5%	0.7%	0	1.72	.559
Being opportunistic has enhanced the performance of my agribusiness.	25.0%	64.9%	8.3%	1.5%	0.3%	1.86	.632
Through continuous modification of products and entering new emerging markets, my agribusiness has improved.	25.8%	56.6%	9.8%	4.3%	3.5%	2.07	1.321
By being proactive, I have been able to shape the orientation of my agricultural business.	28.3%	54.9%	11.0%	3.5%	2.3%	1.96	.858
I have done a lot of internal changes and restructured my business for the purpose of increasing its growth.	26.8%	52.9%	7.8%	4.0%	8.5%	2.14	1.120
Average						**1.95**	**0.898**

Overall, the statements assessing the pro-activeness had an average mean score of 1.95 supported with a standard deviation of 0.898. This implies that the respondents were positive that the different components of pro-activeness such as anticipating and acting to future needs, and being opportunistic helped to improve the enterprise performance. In support of this finding, Nyaga and Wambugu (2023) highlight the necessity of internal restructuring for the success of small-scale agricultural operations. This includes optimising resource allocation and enhancing operational efficiency, among other things.

Risk Taking and Performance of Small-Scale Agribusiness Grain Farmers

This study sought to examine the influence of risk taking on the performance of small-scale agribusiness grain farmers in North Rift, Kenya. Figure 2 shows the responses given.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

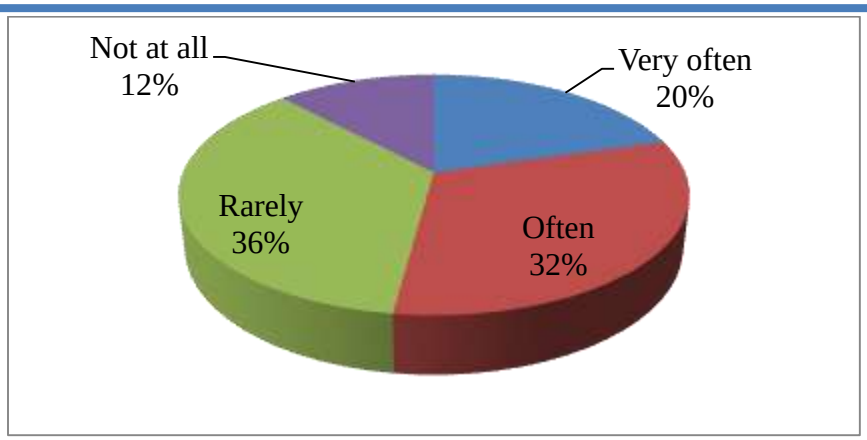


Figure 2: Frequency of Taking Risks for the Growth of Agribusiness

Only 52% of the participants in the study took risks for their business often and very often. However, 36% rarely took any risks whereas the remaining 12% never took any risk. This shows that whereas there were some small-scale agribusinesses grain farmers who strive to take risks for the expansion of their agricultural enterprises, others do not take the risk. This could therefore be limiting them from achieving their full potentials in the sector. According to Waweru and Mutua (2022), risk-taking is essential for innovation, market expansion, and the overall growth of small-scale agribusinesses. The fact that nearly half of the respondents are reluctant to take risks suggests a potential barrier to maximizing their business potential, as those who avoid risks may miss opportunities for significant gains.

The respondents further gave their responses on various statements assessing the influence of risk taking on performance of their agribusiness.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 3: Risk Taking

Statement	SA	A	UD	D	SD	μ	σ
Due to risk taking, I have been able to engage in numerous other activities relating to agriculture hence boosting my agribusiness.	22.6%	51.1%	9.5%	14.0%	2.8%	2.23	1.038
Making risky decisions under risky conditions has contributed to my agribusiness making a lot of losses.	20.3%	45.1%	14.5%	13.8%	6.3%	2.40	1.141
Risk taking increases the probability of identifying new resources for my agribusiness venture.	20.0%	47.9%	13.8%	15.0%	3.3%	2.33	1.059
Through risk taking initiatives, I have been able to stumble into new ideas and ventures boosting the growth of agribusiness.	22.8%	43.9%	12.8%	14.0%	6.5%	2.37	1.168
Average						**2.33**	**1.102**

The overall mean score for the comments about taking risks was 2.33, with a standard deviation of 1.102. This indicates that the majority of small-scale agribusiness grain producers who took part in the survey agreed that taking various risks helped their businesses expand. As noted by Omondi *et al*. (2021), farmers who are reluctant to take risks are less likely to experiment with new farming techniques, adopt innovative crop varieties, or enter new markets, all of which are crucial for improving productivity and profitability.

Competitive Aggressiveness and Performance of Small-Scale Agribusiness Grain Farmers

The purpose of this research was to identify how small-scale agribusiness grain producers in Kenya's North Rift region fared when faced with strong competition.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 4: Competitive Aggressiveness

Statement	SA	A	UD	D	SD	μ	σ
Through price-cutting, my agribusiness has been able to acquire more customers.	26.3%	60.6%	4.5%	6.8%	1.8%	1.96	.858
Increased spending on marketing of my agricultural products has boosted the agribusiness.	21.3%	59.6%	9.8%	7.0%	2.3%	2.09	.887
Investing in the quality of my agricultural products has enhanced the performance of my agribusiness.	22.6%	60.8%	9.8%	4.5%	2.3%	2.03	.841
Increased production capacity has enabled my agribusiness to be ahead of my competitors.	21.0%	58.4%	9.0%	5.8%	5.8%	2.16	1.012
Average						**2.06**	**0.899**

A mean score of 2.06 and a standard deviation of 0.899 were recorded for the statements that evaluated competitive aggressiveness on the whole. What this indicated is that the small-scale agribusiness grain producers all agreed that aggressive marketing, decreasing prices, and high-quality products helped them succeed. In supporting the observations made in this study, a previous study by Barango-Tariah, Oparah and Hamilton-Ibama (2023) highlighted that competitive aggressiveness had a significant role in facilitating the performance of businesses.

Autonomy and Performance of Small-Scale Agribusiness Grain Farmers

The study examined how autonomy influenced the performance of small-scale agribusiness grain farmers in North Rift, Kenya. Results shown below.

Table 5: Autonomy

Statement	SA	A	UD	D	SD	μ	σ
Having the opportunity to make the final decisions has boosted the performance of my agribusiness.	28.6%	65.1%	4.8%	1.0%	0.5%	1.84	1.183
Being able to make rational choices has helped the agribusiness to grow over the years.	23.1%	65.8%	9.8%	1.3%	0%	1.89	.606
Having the desire of being independent has helped a lot in promoting the growth of my agribusiness.	23.8%	59.6%	12.8%	3.0%	0.8%	1.97	.744
Overall, the sense of autonomy has encouraged the growth of my agribusiness.	22.8%	57.9%	8.0%	6.3%	5.0%	2.12	.998
Average Score						**1.96**	**0.883**

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

This statement was further supported by the average mean score (1.96) and standard deviation (0.883) of the statements of autonomy which implied that most of the respondents agreed that the different components of autonomy assessed in this study as decision making, rationality, and independence influenced enterprise growth. The components of autonomy are widely recognized as essential for fostering innovation, flexibility, and strategic agility in agribusiness. As noted by Wanjiru and Karanja (2019), autonomy allows farmers to pursue their vision for the business without undue external constraints, enabling them to adapt more effectively to changing market conditions and opportunities.

Entrepreneur Characteristics and Performance of Small-Scale Agribusiness Grain Farmers

There were several statements provided on entrepreneur characteristics and performance of small-scale agribusiness grain farmers. The responses are shown in the table below.

Table 6: Entrepreneur Characteristics

Statement	SA	A	UD	D	SD	μ	σ
Education Level does influence the growth of my agribusiness.	30.3%	56.8%	3.8%	4.8%	4.3%	1.92	.906
Working experience influences the growth of my agribusiness.	34.1%	59.8%	3.8%	1.8%	0.5%	1.74	.656
Gender has an influence on the growth of my agribusiness.	20.1%	50.1%	11.3%	10.5%	8.0%	2.36	1.152
My attitude towards agriculture has influenced the growth of my agribusiness.	35.3%	56.9%	4.0%	2.8%	1.0%	1.77	.737
Average						**1.95**	**.863**

An average score of 1.95 and a standard deviation of 0.863 were recorded for the statements that evaluated the impact of entrepreneurial traits on the performance of small-scale agribusiness grain producers. It was inferred from this that the majority of respondents found the assertions to be true. Mwangi and Njeru (2020), indicated that education equips farmers with the knowledge and skills necessary to adopt modern farming techniques, improve productivity, and make informed business decisions. According to Kariuki *et al*. (2021), working experience in agriculture enables farmers to develop a deeper understanding of market dynamics, improve decision-making, and enhance business resilience. Mutunga and Mwangi (2019), suggested that gender can impact access to resources, decision-making power, and participation in agricultural activities, others argue that the effect of gender may vary depending on cultural and regional contexts. Wanjohi and Kinyua (2022) found that farmers with a positive attitude towards agriculture were more likely to invest in their farms, adopt new technologies, and pursue growth opportunities, leading to better performance outcomes.

Performance of Small-scale Agribusiness Grain Farmers

Participants were given several statements and asked to indicate their responses. The statements examined the performance of the agribusiness farmers in terms of their sales, customers, and general business expansions.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 7: Performance of Small-Scale Agribusiness Grain Farmers

Statement	SA	A	UD	D	SD	μ	σ
Over the past 5 years, I have managed to increase the sales from my agribusiness.	32.1	57.6	4.8	4.5	1.0	1.84	.785
Over the past 5 years, my agribusiness has gained more customers.	29.8	54.4	7.3	6.5	2.0	1.96	.901
Over the past 5 years, my agribusiness has generally expanded.	34.8	48.4	7.0	5.0	4.8	1.96	1.024
Average						**1.44**	**0.678**

The statements measuring the performance of the small-scale agribusiness grain farmers had an average mean score of 1.44 and standard deviation of 0.678. This means that most of the respondents agreed with the statements.

Correlation Analysis

Correlation is often used to explore the relationship among a group of variables (Pallant, 2010), in turn helping in testing for multicollinearity. That the correlation values are not close to 1 or -1 is an indication that the factors are sufficiently different measures of separate variables (Farndale, Hope-Hailey & Kelliher, 2010). It is also an indication that the variables are not multicollinear. Absence of multicollinearity allows the study to utilize all the independent variables. Table 4.13 shows that the lowest correlation in this study was between Competitive Aggressiveness and autonomy ($r=0.312$, $p<0.05$). The highest correlation was between Entrepreneurial Innovation and performance ($r=0.759$, $p<0.05$). A correlation of above 0.90 is a strong indication that the variables may be measuring the same thing (Tabachnick & Fidell, 2013). The fact that all the correlations were less than 0.90 was an indication that the factors were sufficiently different measures of separate variables, and consequently, this study utilized all the variables.

Table 8: Correlations of the Study Variables

	Performance	Entrepreneur Characteristics	Risk Taking	Pro-activeness	Entrepreneurial Innovation	Competitive Aggressiveness	Autonomy
Performance	1	.694**	.704**	.650**	.759**	.647**	.511**
Entrepreneur Characteristics	.694**	1	.529**	.520**	.650**	.546**	.429**
Risk Taking	.704**	.529**	1	.667**	.541**	.416**	.516**
Pro-activeness	.650**	.520**	.667**	1	.457**	.441**	.514**
Entrepreneurial Innovation	.759**	.650**	.541**	.457**	1	.497**	.389**
Competitive Aggressiveness	.647**	.546**	.416**	.441**	.497**	1	.312**
Autonomy	.511**	.429**	.516**	.514**	.389**	.312**	1

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

Regression Analysis

Influence of Entrepreneurial Innovation on the Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya

The first specific objective of this study was to examine the Influence of entrepreneurial innovation on the performance of small-scale agribusiness grain farmers in North Rift, Kenya.

The hypothesis to test for this specific objective was:

H_{01}: There is no significant relationship between entrepreneurial innovation and the performance of small-scale agribusiness grain farmers in North Rift, Kenya

The regression results in table 3.8 shows the relationship between Entrepreneurial Innovation and the performance of small-scale agribusiness grain farmers in North Rift, Kenya was significant ($F=539.106$, p-value=0.000<0.05), with R^2 =0.576, the model implies that about 57.6% of performance of small-scale agribusiness grain farmers in North Rift, Kenya is explained by variation in Entrepreneurial Innovation. The model equation for the relationship between Entrepreneurial Innovation and performance of small-scale agribusiness grain farmers in North Rift, Kenya is therefore

$$Y=2.070+0.543\mathbf{X_1}$$

Where Y is performance of small-scale agribusiness grain farmers in North Rift, Kenya and X_1 is Entrepreneurial Innovation. The path coefficient was positive and statistically significant ($\beta=0.543$, $t=23.217$, $p=0.000<0.05$) as shown in table 4.14 indicating that, for one unit increase in Entrepreneurial Innovation, performance of small-scale agribusiness grain farmers in North Rift, Kenya increases by 0.543 units. In this regard, H_1 was rejected. Expósito and Sanchis-Llopis (2019), Arif and Akram (2018), and Abdilahi, Hassan, and Muhumed (2017) are just a few of the authors that have shown that entrepreneurial innovation has a noticeable and positive effect on company success.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 9: Regression Summary of Entrepreneurial Innovation on Performance

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.759[a]	0.576	0.575	0.32034

a. Predictors: (Constant), Entrepreneurial Innovation

ANOVA[a]

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	55.314	1	55.314	539.016	.000[b]
	Residual	40.740	397	0.103		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance
b. Predictors: (Constant), Entrepreneurial Innovation

Coefficients[a]

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	2.070	0.104		19.830	0.000
	Entrepreneurial Innovation	0.543	0.023	0.759	23.217	0.000

a. Dependent Variable: Performance

Influence of pro-activeness on the performance of small-scale agribusiness grain farmers in North Rift, Kenya

The second specific objective of this study was to examine the Influence of pro-activeness on the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The hypothesis to test for this specific objective was:

H_{02}: There is no significant relationship between entrepreneurial pro-activeness and the performance of small-scale agribusiness grain farmers in North Rift, Kenya

The regression results in Table 10 shows the relationship between pro-activeness and the performance of small-scale agribusiness grain farmers in North Rift, Kenya was significant ($F=291.133$, p-value=0.000<0.05), with R^2 =0.423, the model implies that about 42.3% of performance of small-scale agribusiness grain farmers in North Rift, Kenya is explained by variation in pro-activeness. The model equation for the relationship between pro-activeness and performance of small-scale agribusiness grain farmers in North Rift, Kenya is therefore

$$Y=1.942+0.621X_2$$

Where Y is performance of small-scale agribusiness grain farmers in North Rift, Kenya and X_2 is pro-activeness. The path coefficient was positive and statistically significant ($\beta=0.621$, $t=17.063$, $p=0.000<0.05$) as shown in Table 10 indicating that, for one unit increase in pro-activeness, performance of small-scale agribusiness grain farmers in North Rift, Kenya increases by 0.621 units. In this regard, H_2 was rejected. In agreement with this finding, Gao, Ge, Lang, and Xu (2018) verified that proactive orientation greatly affected entrepreneurial performance. In addition, Joo and Bennett (2018) found that being proactive improved job performance, particularly in terms of commitment, creativity, and functioning within one's assigned position. Statistical analysis of data

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

from small and medium-sized enterprises (SMEs) in Nigeria by Hamilton and Onyemna (2020) revealed a correlation between proactiveness and SME performance.

Table 10: Regression Summary of Pro-Activeness on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650[a]	0.423	0.422	0.37361

a. Predictors: (Constant), Pro-activeness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.639	1	40.639	291.133	.000[b]
	Residual	55.416	397	0.140		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance

b. Predictors: (Constant), Pro-activeness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.942	0.149		13.038	0.000
	Pro-activeness	0.621	0.036	0.650	17.063	0.000

a. Dependent Variable: Performance

Influence of Risk Taking on the Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya

The third specific objective of this study was to examine the Influence of risk taking on the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The hypothesis to test for this specific objective was:

H_{03}: There is no significant relationship between risk taking and the performance of small-scale agribusiness grain farmers in North Rift, Kenya.

The regression results in Table 11 shows the relationship between risk taking and the performance of small-scale agribusiness grain farmers in North Rift, Kenya was significant (F=389.366, p-value=0.000<0.05), with R^2 =0.495, the model implies that about 49.5% of performance of small-scale agribusiness grain farmers in North Rift, Kenya is explained by variation in risk taking.

The model equation for the relationship between risk taking and performance of small-scale agribusiness grain farmers in North Rift, Kenya is therefore

$$Y=2.193+0.543X_3$$

Where Y is performance of small-scale agribusiness grain farmers in North Rift, Kenya and X_3 is risk taking. The path coefficient was positive and statistically significant (β=0.543, t=19.732, p=0.000<0.05) as shown in Table 11 indicating that, for one unit increase in risk taking, performance of small-scale agribusiness grain farmers in North Rift, Kenya increases by 0.543 units. In this regard, H_3 was rejected. Hisam and Othman (2018) found that an individual's risk-

taking tendency was significantly related to their plans to start their own business. Further confirmation of a statistically significant association between entrepreneurial risk-taking and success of Agro-Entrepreneurs was provided by Adim, Mezeh, and Bassey (2021) and Kitigin (2017).

Table 11: Regression Summary of Risk Taking on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704[a]	0.495	0.494	0.34950

a. Predictors: (Constant), Risk Taking

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	47.561	1	47.561	389.366	.000[b]
	Residual	48.494	397	0.122		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance

b. Predictors: (Constant), Risk Taking

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.193	0.116		18.844	0.000
	Risk Taking	0.543	0.027	0.704	19.732	0.000

a. Dependent Variable: Performance

Influence of Entrepreneurial Competitive on the Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya.

The fourth specific objective was to examine the influence of entrepreneurial autonomy on the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The hypothesis to test for this specific objective was:

H_{04}: There is no significant relationship between entrepreneurial competitive aggressiveness and the performance of small-scale agribusiness grain farmers in North Rift, Kenya.

The regression results in Table 12 shows the relationship between competitive aggressiveness and the performance of small-scale agribusiness grain farmers in North Rift, Kenya was significant ($F=285.389$, p-value=0.000<0.05), with R^2 =0.418, the model implies that about 41.8% of performance of small-scale agribusiness grain farmers in North Rift, Kenya is explained by variation in competitive aggressiveness. The model equation for the relationship between competitive aggressiveness and performance is therefore

$$Y=2.106+0.695X_4$$

Where Y is performance of small-scale agribusiness grain farmers in North Rift, Kenya and X_4 is competitive aggressiveness. The path coefficient was positive and statistically significant ($\beta=0.695$, $t=16.893$, $p=0.000<0.05$) as shown in Table 12 indicating that, for one unit increase in

entrepreneurial competitive, performance of small-scale agribusiness grain farmers in North Rift, Kenya increases by 0.695 units. In this regard, H_{04} was rejected. In supporting this finding, Aroyeun, Adefulu, and Asikhia (2018), Chinyelu and Konya (2020), and Irenaus *et al*. (2021) showed that SMEs' success is positively correlated with their level of competitive aggressiveness across a range of geographies and industries.

Table 12: Regression Summary of Competitive Aggressiveness on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647[a]	0.418	0.417	0.37518

a. Predictors: (Constant), Competitive Aggressiveness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.172	1	40.172	285.384	.000[b]
	Residual	55.883	397	0.141		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance

b. Predictors: (Constant), Competitive Aggressiveness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.106	0.141		14.959	0.000
	Competitive Aggressiveness	0.695	0.041	0.647	16.893	0.000

a. Dependent Variable: Performance

Influence of Entrepreneurial Autonomy on the Performance of Small-Scale Agribusiness Grain Farmers in North Rift, Kenya.

The fifth specific objective of this study was to examine the Influence of entrepreneurial autonomy on the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The hypothesis to test for this specific objective was:

H_{05}: There is no significant relationship between entrepreneurial autonomy and the performance of small-scale agribusiness grain farmers in North Rift, Kenya.

The regression results in Table 13 shows the relationship between entrepreneurial autonomy and the performance of small-scale agribusiness grain farmers in North Rift, Kenya was significant ($F=140.181$, p-value$=0.000<0.05$), with $R^2 =0.261$, the model implies that about 26.1% of performance of small-scale agribusiness grain farmers in North Rift, Kenya is explained by variation in entrepreneurial autonomy. The model equation for the relationship between entrepreneurial autonomy and performance is therefore

$$Y=2.003+0.662X_5$$

Where Y is performance of small-scale agribusiness grain farmers in North Rift, Kenya and X_5 is entrepreneurial autonomy. The path coefficient was positive and statistically significant ($\beta=0.662$, $t=11.840$, $p=0.000<0.05$) as shown in Table 13 indicating that, for one unit increase in

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

entrepreneurial autonomy, the performance of small-scale agribusiness grain farmers in North Rift, Kenya increases by 0.662 units. In this regard, H_5 was rejected. According to research by Hodari, Turner, and Sturman (2017), giving employees more freedom to make decisions impacts business outcomes. A further study by Waithaka, Bwisa, and Kihoro (2016) in Kenya's Kiambu County also indicated that SMEs in the agricultural manufacturing sector fared better when their owners had a lot of leeway to make decisions.

Table 13: Regression Summary of Entrepreneurial Autonomy on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511[a]	0.261	0.259	0.42286

a. Predictors: (Constant), Autonomy

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.066	1	25.066	140.181	.000[b]
	Residual	70.989	397	0.179		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance of Small-Scale Agribusiness Grain Farmers
b. Predictors: (Constant), Autonomy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.003	0.209		9.589	0.000
	Entrepreneur Autonomy	0.662	0.056	0.511	11.840	0.000

a. Dependent Variable: Performance of Small-Scale Agribusiness Grain Farmers

Overall model

A multiple regression analysis was conducted to examine the linear relationship between entrepreneurial orientation (EO) dimensions—Autonomy, Competitive Aggressiveness, Entrepreneurial Innovation, Pro-activeness, and Risk Taking—and the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The results revealed a statistically significant model, with $F = 274.948$ and $p < 0.05$, indicating that the combined effect of the EO dimensions significantly predicts farmer performance. The model yielded a goodness-of-fit value of $R^2 = 0.778$, suggesting that 77.8% of the variability in performance is explained by the five EO constructs.

The regression equation derived from the analysis was: $Y = 0.539 + 0.289X_1 + 0.152X_2 + 0.182X_3 + 0.275X_4 + 0.091X_5 + E$, where Y represents performance, and X_1 to X_5 correspond to Entrepreneurial Innovation, Pro-activeness, Risk Taking, Competitive Aggressiveness, and Autonomy, respectively.

Each EO dimension exhibited a positive and statistically significant relationship with performance. Entrepreneurial Innovation had the strongest effect ($\beta = 0.289$, $t = 13.253$, $p < 0.05$), followed by Competitive Aggressiveness ($\beta = 0.275$, $t = 8.936$, $p < 0.05$), Risk Taking ($\beta = 0.182$, $t = 6.748$, p

< 0.05), Pro-activeness (β = 0.152, t = 4.692, p < 0.05), and Autonomy (β = 0.091, t = 2.417, p = 0.016 < 0.05). These findings underscore the critical role of EO in enhancing the performance outcomes of small-scale agribusinesses.

The results are consistent with prior empirical studies. Cho and Lee (2018) found that EO positively influences both financial and non-financial performance of SMEs, while Okoli, Nwosu, and Okechukwu (2021) emphasized EO's contribution to profitability, success, and growth in entrepreneurial ventures. Collectively, these findings affirm that EO dimensions are vital strategic drivers of agribusiness performance in the Kenyan context.

Table 14: Regression Summary for the Overall Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.882[a]	0.778	0.775	0.23310

a. Predictors: (Constant), Autonomy, Competitive Aggressiveness, Entrepreneurial Innovation, Pro-activeness, Risk Taking

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	74.700	5	14.940	274.948	.000[b]
	Residual	21.355	393	0.054		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance

b. Predictors: (Constant), Autonomy, Competitive Aggressiveness, Entrepreneurial Innovation, Pro-activeness, Risk Taking

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.539	0.129		4.165	0.000
	Entrepreneurial Innovation	0.289	0.022	0.404	13.253	0.000
	Pro-activeness	0.152	0.032	0.159	4.692	0.000
	Risk Taking	0.182	0.027	0.236	6.748	0.000
	Competitive Aggressiveness	0.275	0.031	0.255	8.936	0.000
	Autonomy	0.091	0.038	0.070	2.417	0.016

a. Dependent Variable: Performance

Overall Moderated model

The sixth objective of the study examined whether entrepreneur characteristics moderate the relationship between entrepreneurial orientation (EO) dimensions and the performance of small-scale agribusiness grain farmers in North Rift, Kenya. The results are shown in Table 15 below.

European Journal of Business and Strategic Management
ISSN 2518-265X (Online)
Vol.10, Issue 5, No.5. pp 63 - 92, 2025
www.iprjb.org

Table 15: Regression Summary for the Overall Moderated Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.885[a]	0.784	0.781	0.23015	0.784	236.911	6	392	0.000
2	.889[b]	0.790	0.784	0.22826	0.006	2.302	5	387	0.044

a. Predictors: (Constant), Entrepreneur Characteristics, Autonomy, Competitive Aggressiveness, Risk Taking, Entrepreneurial Innovation, Pro-activeness

b. Predictors: (Constant), Entrepreneur Characteristics, Autonomy, Competitive Aggressiveness, Risk Taking, Entrepreneurial Innovation, Pro-activeness, CAxEC, RTxEC, EIxEC, ATxEC, ProxEC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.291	6	12.549	236.911	.000[b]
	Residual	20.763	392	0.053		
	Total	**96.055**	**398**			
2	Regression	75.891	11	6.899	132.417	.000[c]
	Residual	20.164	387	0.052		
	Total	**96.055**	**398**			

a. Dependent Variable: Performance

b. Predictors: (Constant), Entrepreneur Characteristics, Autonomy, Competitive Aggressiveness, Risk Taking, Entrepreneurial Innovation, Pro-activeness

c. Predictors: (Constant), Entrepreneur Characteristics, Autonomy, Competitive Aggressiveness, Risk Taking, Entrepreneurial Innovation, Pro-activeness, CAxEC, RTxEC, EIxEC, ATxEC, ProxEC

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	0.436	0.131		3.314	0.001
	Entrepreneurial Innovation	0.257	0.024	0.359	10.854	0.000
	Pro-activeness	0.137	0.032	0.143	4.236	0.000
	Risk Taking	0.175	0.027	0.227	6.542	0.000
	Competitive Aggressiveness	0.247	0.031	0.229	7.836	0.000
	Autonomy	0.077	0.037	0.060	2.070	0.020
	Entrepreneur Characteristics	0.120	0.036	0.115	3.341	0.000
2	(Constant)	-0.286	0.112		-2.551	0.006
	Entrepreneurial Innovation	0.230	0.102	0.322	2.259	0.012
	Pro-activeness	0.386	0.127	0.240	3.033	0.001
	Risk Taking	0.226	0.104	0.293	2.172	0.015
	Competitive Aggressiveness	0.947	0.255	0.881	3.720	0.000
	Autonomy	0.226	0.106	0.217	2.134	0.017
	Entrepreneur Characteristics	0.296	0.114	0.284	2.606	0.005
	EIxEC	0.204	0.049	0.187	4.153	0.000
	ProxEC	0.034	0.067	0.237	0.503	0.308
	RTxEC	0.123	0.058	0.106	2.141	0.016
	CAxEC	-0.174	0.062	-0.159	-2.807	0.003
	ATxEC	0.080	0.082	0.045	0.968	0.167

a. Dependent Variable: Performance

The null hypothesis (H06) was rejected, as results from Model 2 indicated a statistically significant moderating effect, with an R^2 change of 0.006 ($F(5, 387) = 0.044$, $p < 0.05$), suggesting that entrepreneur characteristics explain an additional 0.6% of the variance in performance beyond EO

dimensions. In Model 1, all EO dimensions—entrepreneurial innovation (β=0.257), pro-activeness (β=0.137), risk taking (β=0.175), competitive aggressiveness (β=0.247), autonomy (β=0.077), and entrepreneurial characteristics (β=0.120)—had positive and statistically significant effects on performance (all $p < 0.05$).

Model 2 introduced interaction terms to assess moderation. Entrepreneur Characteristics*Entrepreneurial Innovation ($\beta=0.204$, $p<0.05$) and Entrepreneur Characteristics*Risk Taking (β=0.123, $p<0.05$) showed positive and significant moderating effects. Entrepreneur Characteristics*Competitive Aggressiveness had a negative but significant effect (β=-0.174, $p<0.05$), while interactions with pro-activeness (β=0.034, $p>0.05$) and autonomy (β=0.080, $p>0.05$) were statistically insignificant. These findings confirm that entrepreneur characteristics selectively moderate the EO-performance relationship, particularly enhancing the effects of innovation and risk-taking, while dampening the influence of competitive aggressiveness.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

Entrepreneurial innovation was widely recognized by small-scale agribusiness grain producers in North Rift, Kenya as a key driver of improved performance. Most respondents reported gains after adopting new marketing strategies, introducing new products, streamlining agricultural processes, and receiving innovation-focused training. Statistically, entrepreneurial innovation accounted for 57.6% of performance variation. Regression analysis showed that each unit increase in innovation led to a 0.289 unit rise in performance, which increased to 0.461 units after moderation; confirming a strong, positive, and significant relationship between innovation and agribusiness success.

Proactiveness was identified as a key contributor to the success of small-scale agribusiness grain producers in North Rift, Kenya. Most respondents attributed their improved performance to anticipating customer needs, seizing market opportunities, enhancing products, and restructuring their businesses. Statistically, proactiveness explained 42.3% of the variation in performance. Regression analysis revealed that each unit increase in proactive behavior led to a 0.152 unit rise in performance, which increased to 0.171 units after moderation; demonstrating a strong, positive, and significant link between initiative and agribusiness growth.

Risk-taking was widely practiced and positively perceived among small-scale agribusiness grain producers in North Rift, Kenya. Most respondents reported that taking risks, despite occasional losses, enabled business growth, expanded agricultural activities, and led to the discovery of innovative opportunities. The average mean score for risk-taking was 2.33 (SD = 1.102), indicating frequent engagement. Statistically, risk-taking accounted for 5% of performance variation. Regression analysis showed that each unit increase in risk-taking improved performance by 0.182 units, rising to 0.298 units after moderation; confirming a significant and favorable relationship between risk-taking and agribusiness success.

Competitive aggressiveness through low pricing, increased marketing, and product quality was widely credited by small-scale agribusiness grain producers in North Rift, Kenya as a driver of success. Most respondents believed these strategies attracted more customers and helped them outperform competitors. Statistically, competitive aggressiveness explained 41.8% of performance

variation. Regression analysis showed that each unit increase in competitive aggression led to a 0.275 unit rise in performance, with a moderated effect of 0.073 units; indicating a significant and positive relationship between competitive strategies and agribusiness growth.

Entrepreneurial autonomy as defined by independent decision-making, rational judgment, and a desire for self-direction, was widely acknowledged by small-scale agribusiness grain producers in North Rift, Kenya as a key factor in their business growth. Most respondents linked their improved agricultural performance to increased autonomy. Statistically, autonomy explained 26.1% of the variation in performance. Regression analysis showed that each unit increase in autonomy led to a 0.091 unit rise in performance, which increased to 0.157 units after moderation, demonstrating a significant and positive relationship between autonomy and agribusiness success.

Entrepreneurial traits like gender, education, work experience, and agricultural outlook—were widely seen by small-scale agribusiness grain producers in North Rift, Kenya as influential to their success, reflected by a mean score of 1.95 (SD = 0.863). Entrepreneurial spirit showed a strong and significant positive correlation with crop yields. Notably, 79% of the variation in performance was explained by entrepreneurial mindset and attributes, with traits like attitude, education, and experience playing a substantial role in shaping the effectiveness of entrepreneurial strategies.

Most small-scale agribusiness grain producers in North Rift, Kenya reported growth in sales, clientele, and overall business performance over the past five years, with a mean score of 1.44 (SD = 0.678). Entrepreneurial attitude explained 0.6% of the performance variation and was significantly associated with success. The key components (entrepreneurial innovation, proactiveness, risk-taking, competitive aggressiveness, and autonomy) were all statistically significant predictors of improved agribusiness performance.

Conclusion

This study examined how entrepreneurial orientation (EO) influences the performance of small-scale agribusiness grain producers in Kenya's North Rift region. It found statistically significant positive relationships between agribusiness success and five EO traits: innovation, proactiveness, risk-taking, competitive aggressiveness, and autonomy. Farmers who adopted new ideas, responded proactively to market needs, took calculated risks, engaged in aggressive marketing, and exercised independent decision-making consistently reported better performance outcomes. However, the study also revealed that risk-taking was notably underutilized by many producers. This finding aligns with Knight's Uncertainty Bearing Theory, which assumes rational decision-making under unpredictable conditions; yet in subsistence farming contexts, risk aversion may stem from structural constraints such as limited access to credit, lack of insurance mechanisms, and cultural norms that discourage experimentation. These barriers inhibit farmers from venturing into new crops or markets, thereby constraining innovation and growth.

The study further demonstrated that the impact of EO on performance is moderated by individual entrepreneurial attributes such as education level, experience, gender, and agricultural outlook. Farmers with higher education or more experience were better equipped to translate entrepreneurial behaviors into tangible results, suggesting that achievement motivation (as framed by McClelland's Psychological Theory) is amplified by exposure to knowledge and practice. The predictive model indicated that 79% of the variation in performance could be explained by the

interaction between EO and these traits, underscoring the importance of tailoring capacity-building interventions to farmer-specific profiles. These findings emphasize that EO is not uniformly effective; its success depends on the alignment between strategic behavior and contextual enablers.

Overall, the study affirms EO as a critical driver of agribusiness performance, but also cautions that its full potential can only be realized when systemic constraints such as financial exclusion, weak extension services, and rigid cultural attitudes are addressed. Integrating strategic entrepreneurial behavior with personalized support and institutional reform is essential to foster resilient, opportunity-driven agripreneurs in North Rift and beyond.

Recommendations

To enhance the performance and sustainability of small-scale agribusiness grain farmers in North Rift, Kenya, this study recommends a multifaceted strategy grounded in the empirical relationships between entrepreneurial orientation (EO) dimensions and performance outcomes. Since entrepreneurial innovation explained 57.6% of performance variation, farmers should be supported to adopt modern agricultural technologies such as precision equipment, digital platforms, and process innovations that reduce input costs and improve productivity. Partnerships with research institutions can accelerate the development and dissemination of resilient grain varieties and adaptive farming techniques, directly reinforcing the innovation-performance link.

Given that proactiveness accounted for 42.3% of performance, farmers should be trained to anticipate market trends, restructure operations, and seize emerging opportunities. Regular market research and intelligence-sharing platforms can help farmers diversify their revenue streams and respond to shifting consumer preferences. Competitive pricing strategies, bulk incentives, and cooperative marketing are especially relevant, as competitive aggressiveness contributed 41.8% to performance, indicating that assertive market behavior when supported by strategic planning can significantly enhance profitability and bargaining power.

Although risk-taking explained 49.5% of performance, the study found it to be underutilized due to financial and cultural constraints. Extension agents should therefore provide targeted training in risk management, scenario planning, and strategic experimentation. Collaborations with financial institutions are essential to improve access to credit and insurance tools, enabling farmers to take calculated risks without jeopardizing their livelihoods. Since autonomy explained 26.1% of performance, interventions should strengthen farmers' decision-making capacity and provide access to independent market information, allowing them to act with greater strategic freedom and confidence.

Finally, the study revealed that entrepreneurial traits such as education, experience, and gender moderated the EO-performance relationship, explaining up to 79% of performance variation when combined. Capacity-building initiatives should be customized to reflect these traits—offering mentorship for youth, gender-sensitive training modules, and experience-based peer learning. Educational institutions should integrate entrepreneurship, innovation, and risk management into agricultural curricula, while engaging in collaborative research to drive context-sensitive technological advancement. Collectively, these recommendations aim to translate EO dimensions into actionable pathways for agribusiness growth and long-term resilience in North Rift, Kenya.

Suggestions for Further Studies

Although entrepreneurial orientation is an important factor it explains 78.4% of the performance of small-scale agribusiness grain farmers in North Rift. The study concluded that a comprehensive approach addressing other contributing factors is necessary to understand and improve the performance of the farmers. Hence, more research is needed to thoroughly investigate the other critical factors that might be contributing to the 21.6% performance of small-scale agricultural grain farmers.

In addition, the characteristics of entrepreneurs were the subject of this study's moderating variable analysis; nevertheless, this only led to a 0.06% improvement in performance, bringing the total to 79%. Hence, parallel research with the inclusion of moderating factors, including government policies, is necessary to countercheck the possibility that small-scale agribusiness grain producers may be more susceptible to the differing effects of entrepreneurial orientation on performance.

REFERENCES

Abdilahi, M.H., Hassan, A.A. & Muhumed, M.M. (2017). The impact of innovation on small and medium enterprises: Empirical evidence from Hargeisa, Somaliland. *International Journal of Academic Research in Business and Social Sciences*, 7(8), 14-28.

Adim, C. V., Mezeh, A. A., & Bassey, U. L. (2021). Entrepreneurial risk-taking propensity and performance of agro-entrepreneurs in Obio Akpor Lga, Rivers State. *The Strategic Journal of Business & Change Management,* 8 (4), 953 – 965.

Ali, S., Khalid, N., & Bashir, M. (2021). Impact of Innovative Marketing on the Performance of Small-Scale Farmers. *Journal of Agricultural Economics*, *75*(3), 443-459.

Alqahtani, N., Uslay, C., & Yeniyurt, S. (. (2024). Comparing the moderated impact of entrepreneurial orientation, market orientation, and entrepreneurial marketing on firm performance. *Journal of Small Business Management*, *62*(6), 2741–2778. https://doi.org/10.1080/00472778.2023.2272267

Arif, S., & Akram, A. (2018). Transformational Leadership and Organizational Performance: The Mediating Role of Organizational Innovation. *SEISENSE Journal of Management*, *1*(3), 59-75. https://doi.org/10.33215/sjom.v1i3.28

Aroyeun, T. F., Adefulu, A. D., & Asikhia, O. U. (2018). Effect of competitive aggressiveness on competitive advantage of selected small and medium scale enterprises in Ogun State Nigeria. *European Journal of Business and Management*, 10(35), 125-135.

Atube, F., Malinga, G.M., Nyeko, M. *et al*. (2021). Determinants of smallholder farmers' adaptation strategies to the effects of climate change: Evidence from northern Uganda. *Agric & Food Security*, 10, 6. https://doi.org/10.1186/s40066-020-00279-1

Barango-Tariah, U.M., Opara, C.B., & Hamilton-Ibama, E.L. (2023). Competitive Aggressiveness and Marketing Performance of Quoted Consumer Goods Manufacturing Companies in Nigeria. *Journal of Contemporary Marketing*, 8(1 & 2):96-109.

Boldureanu, G., Ionescu, A.M., Bercu, A.-M., Bedrule-Grigoruță, M.V., & Boldureanu, D. (2020). Entrepreneurship Education through Successful Entrepreneurial Models in Higher Education Institutions. *Sustainability*, *12*, 1267. https://doi.org/10.3390/su12031267

Casson, M. (2003). Entrepreneurship, Business Culture and the Theory of the Firm. In: Acs, Z.J., Audretsch, D.B. (eds) *Handbook of Entrepreneurship Research*. International Handbook Series on Entrepreneurship, vol 1. Springer, Boston, MA. https://doi.org/10.1007/0-387-24519-7_10

Chinyelu, O.A., & Konya, T.K. (2020). Competitive Aggressiveness and Business Performance of Event Management Firms in Port Harcourt, Nigeria. *International Journal of Business & Law Research*, 8(1), 99-108.

Deakins, D., & Freel, M. (2009). *Entrepreneurship and Small Firms*. 5th Edition, McGraw Hill, New York.

Dost, M., & Ali Umrani, W. (2024). Managerial Proactiveness, Frugal Innovation and Firm Performance. *The Journal of Entrepreneurship*, *33*(2), 393-417. https://doi.org/10.1177/09713557241256212

Drucker, P. D. (1985). *Innovation and entrepreneurship*. New York, HarperCollins.

Ekott, N. (2021). *INTERVIEW: Why Nigeria isn't producing enough cassava for its population – Expert*. Retrieved from https://www.premiumtimesng.com/agriculture/agric-news/453107-interview-why-nigeria-isnt-producing-enough-cassava-for-its-population-expert.html

Expósito, A., & Sanchis-Llopis, J.A. (2019). The relationship between types of innovation and SMEs' performance: a multi-dimensional empirical assessment. *Eurasian Bus Rev*, 9, 115–135. https://doi.org/10.1007/s40821-018-00116-3

Fan, M., Qalati, S.A., Khan, M.A.S., Shah, S.M.M., Ramzan, M., & Khan, R.S. (2021). Effects of entrepreneurial orientation on social media adoption and SME performance: The moderating role of innovation capabilities. *PLoS ONE* 16(4): e0247320. https://doi.org/10.1371/journal.pone.0247320

Freeman, C. (1982). *The Economics of Industrial Innovation*. MIT Press.

George, W. (2025). Entrepreneurial orientation and business outcomes: Evidence from agro-dealers in Dodoma City, Tanzania. *Cogent Business & Management*, *12*(1). https://doi.org/10.1080/23311975.2025.2479172

Gottschalck, N., Branner, K., Rolan, L., & Kellermanns, F. (2024). Cross-level effects of entrepreneurial orientation and ambidexterity on the resilience of small business owners. *Journal of Small Business Management*, *62*(1), 103–139. https://doi.org/10.1080/00472778.2021.2002878

Hamilton, D.I., & Onyemna, U.O. (2020). Proactiveness and Performance of Small and Medium Enterprises in Rivers and Bayelsa States of Nigeria. *American Research Journal of Humanities & Social Science*, 3(9), 29-35.

Hisam, N.S.M. & Othman, N. (2018). The Effect of Risk-Taking Propensity on Entrepreneurial Intention: Entrepreneurial Self Efficacy as Moderator. *Jour of Adv Research in Dynamical & Control Systems*, 10(4), 1590-1595.

Irenaus, N.O., Amalu, N.M., Okpalanzekwe, J., & Chigozie, P.M. (2021). Competitive Aggressiveness and Increase in Market Share of Small and Medium Enterprises in South East Nigeria. *Academic Journal of Current Research*, 8(6), 7-20

Kebenei, M., Mwangi, E., & Mathenge, P. (2021). Agripreneur Sustainability Strategies and Financial Performance of Small-Scale Farmers in Uasin-Gishu County, Kenya. *European Journal of Business and Strategic Management*, *6*(1), 30 – 55.

Kilelu, C. W., Klerkx, L., & Leeuwis, C. (2020). Supporting smallholder farmers in innovation platforms: Contributions and challenges. *Agricultural Systems*, 178, 102709.

KNBS. (2022). *Kenya National Bureau of Statistics: Economic Survey 2022*.

Kitigin, B. (2017). Relationship between Risk-Taking and Business Performance among Small and Medium Enterprises in Eldoret Town, Kenya. *International Journal of Business and Management Review*, 5(7), 52-59.

Kumar, D., & Kalita, P. (2017). Reducing Postharvest Losses during Storage of Grain Crops to Strengthen Food Security in Developing Countries. *Foods (Basel, Switzerland)*, *6*(1), 8

Kyari, A.K. (2020). The impact of university entrepreneurship education on financial performance of graduate entrepreneurs. *Journal of Entrepreneurship Education*, 23(1).

Makini, F., Mose, L., Kamau, G., & Mulinge, W. *et al*. (2018). *Innovation Opportunities in Sweet Potato production in Kenya*. FARA, KALRO and ZEF.

McClelland, D. C. (1961). *The Achieving Society*, Princeton, NJ: Van Nostrand co.

Muriithi, M. K., Bett, H. K., & Ogola, J. B. (2022). The Role of Product Diversification in Enhancing the Performance of Small-Scale Agribusinesses. *International Journal of Agricultural Management*, 11(2), 112-125.

Mutunga, C. M., & Mwangi, P. M. (2019). Gender Dynamics in Smallholder Agriculture: Implications for Agribusiness Development. *Journal of Gender, Agriculture and Food Security*, 4(1), 45-61.

Mwangi, J. K., & Njeru, E. M. (2020). The Impact of Education on the Performance of Small-Scale Farmers in Kenya. *Journal of Agricultural Education and Extension*, 26(4), 345-359.

Mwangi, M., & Kariuki, S. (2019). Factors Determining Adoption of New Agricultural Technologies by Smallholder Farmers. *Journal of Development and Agricultural Economics*, 11(4), 123-135.

Nyaga, P. M., & Wambugu, S. (2023). Internal Restructuring and Its Impact on Small-Scale Agribusiness Growth. *Journal of Rural and Community Development*, 18(2), 201-219.

Okoli, I. E. N., Nwosu, K. C., & Okechukwu, M. E. (2021). Entrepreneurial Orientation and Performance of Selected SMEs in Southeast, Nigeria. *European Journal of Business and Management Research*, *6*(4), 108–115.

Okoli, I. E. N., Nwosu, K. C., & Okechukwu, M. E. (2021). Entrepreneurial Orientation and Performance of Selected SMEs in Southeast, Nigeria. *European Journal of Business and Management Research*, *6*(4), 108–115.

Okpiri, C. (2017). *Revolutionizing Africa's Economy through Agripreneurship*. Retrieved from https://atpsnet.org/revolutionizing-africas-economy-through-agripreneurship/

Omondi, P. O., Ouma, S. O., & Achieng, G. O. (2021). Risk Aversion and Innovation Adoption among Smallholder Farmers in Kenya. *Agricultural Economics Research Review*, 34(1), 1-15.

Putta, S.S. (2023). The Influence of Entrepreneurial Characteristics on the Financial Performance of Small and Medium Scale Enterprises. *International Journal of Creative Research Thoughts*, 11(4), 210-223.

Sarasvathy, S. D. (2021). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243-263.

Sarfaraz, L., Faghih, N., & Majd, A. (2024). The relationship between women entrepreneurship and gender equality. *J. Glob. Entrep.Res*. 2:6.

Sarwoko, E., Armanu, S., & Hadiwidjojo, D. (2023). Entrepreneurial Characteristics and Competency as Determinants of Business Performance in SMEs. *Journal of Business and Management (IOSR-JBM)*, 7(3), 31-38.

Schumpeter, J. (1949). Economic Theory and Entrepreneurial History. In R. R. Wohl (Ed.), *Change and the Entrepreneur: Postulates and the Patterns for Entrepreneurial History* (pp. 131-142). Cambridge, MA: Harvard University Press.

Simbeko, G., Nguezet, P-M.D., Sekabira, H., Yami, M., Masirika, S.A., Bheenick, K., Bugandwa, D., Nyamuhirwa, D-M.A., Mignouna, J., Bamba, Z., & Manyong, V. (2023). Entrepreneurial Potential and Agribusiness Desirability among Youths in South Kivu, Democratic Republic of the Congo. *Sustainability,* 15(1):873.

Stevenson, H. H. & Jarillo, J. C. (1990). A Paradigm of Entrepreneurship: Entrepreneurial Management. *Strategic Management Journal*, 11, 17-27.

Usoroh, E. (2024). Effect of Autonomy and Competitive Aggressiveness on the Growth of Small and Medium Enterprises (SMEs) in North Central, Nigeria. *International Journal of Advanced Research in Accounting, Economics and Business Perspectives*, 5(1), 83-98. DOI: 10.48028/iiprds/ijaraebp.v5.i1.07

Waithaka, R.W., Bwisa, H.M., & Kihoro, J.M. (2016). Relationship between Autonomy Aspect of an Entrepreneur and the Performance of Agro-Based Manufacturing Small and Medium Enterprises in Kiambu Count-Kenya. *International Journal of Advanced Research in Management and Social Sciences*, 5(7), 103-110.

Waithaka, R.W., Bwisa, H.M., & Kihoro, J.M. (2016). Relationship between Autonomy Aspect of an Entrepreneur and the Performance of Agro-Based Manufacturing Small and Medium Enterprises in Kiambu Count-Kenya. *International Journal of Advanced Research in Management and Social Sciences*, 5(7), 103-110.

Wanjiru, E. W., & Karanja, F. M. (2019). Autonomy in Entrepreneurship: A Key Driver of Innovation and Growth in Agribusiness. *Journal of Rural and Community Development*, 14(1), 101-116.

Wanjohi, P. G., & Kinyua, F. M. (2022). Attitudes Towards Agriculture and Its Influence on Agribusiness Performance. *Journal of Rural Development and Agricultural Economics*, 18(2), 133-150.

Waqingah, S. (2022). The effect of competency and orientation toward agri-preneurship performance on semi-organic shallot farmers: A case study of Selopamioro Village, Imogiri, Bantul District, Indonesia. *IOP Conf. Ser.: Earth Environ. Sci*. 1005 012018.