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AGRIPRENEURIAL ORIENTATION, SUPPLY CHAIN DYNAMICS, AND RISK MANAGEMENT AMONG FARMERS IN THE SUBURBS OF LAGOS STATE, NIGERIA

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Abstract *This study explores how agripreneurial orientation influences supply chain dynamics and assumed risk management strategies by farmers in the suburbs of Lagos State, Nigeria. Lagos is currently one of the rapidly urbanizing regions that pose new challenges and opportunities for agriculture, where traditional farming practices have increasingly become influenced by entrepreneurial strategies. This mixed-methods research combines quantitative surveys and qualitative interviews to explore how agripreneurial attitudes affect the efficiency and resilience of agricultural supply chains. Additionally, it investigates how farmers address various risks, including climate change, market fluctuation, and infrastructure limitation. Results indicate that highly agripreneurially oriented farmers are more efficient in managing the supply chain functions and are also more proactive in the use of risk management strategies. Their risk management strategies mainly encompass diversification, market linkages, and crop insurance, which help them to be more resilient against external shocks. The study, therefore, calls for equipping farmers with appropriate agripreneurial skills coupled with necessary interventions that provide for proper risk management practices that would certainly boost agricultural sustainability in the region. This provides insight, by highlighting the link between agripreneurial orientation and supply chain performance and risk mitigation, that could inform policy and development initiatives at improving agricultural outcomes in suburban Lagos.*

Keywords Agricultural supply chains, Agripreneurial orientation, Risk management, Suburban farming, Sustainable agriculture

Introduction

Agriculture in the suburban regions of Lagos State, Nigeria, plays a vital role in local food production and economic sustenance. However, farmers in these areas grapple with a myriad of challenges that hinder their ability to sustain efficient operations and achieve economic sustainability. Chief among these challenges is the limited adoption of agripreneurial practices, which are crucial for fostering innovation, proactive decision-making, and calculated risk-taking in agricultural ventures (Gandhi & Mohan, 2021; Kareem & Adepoju, 2020). The agripreneurial orientation of farmers directly impacts their ability to adapt to market demands, integrate technology into their practices, and build competitive agricultural enterprises. Despite its importance, little research has been conducted to assess the extent of agripreneurial orientation among farmers in suburban Lagos, leaving a critical gap in understanding how this orientation could improve agricultural productivity and sustainability (Ogunniyi et al., 2019; Yusuf, 2020).The agricultural supply chain in Lagos suburbs is plagued by inefficiencies, including inadequate infrastructure, high transaction costs, and logistical disruptions, which reduce performance and sustainability for farmers (Adetunji et al., 2021; Obayelu et al., 2018). Farmers often struggle to manage value chain processes such as input procurement, production, storage, and distribution effectively. While studies suggest that integrating supply chain management practices can significantly enhance agricultural performance (Chikaire et al., 2020; Adewumi & Ajiboye, 2021), the specific supply chain dynamics employed by suburban farmers and their influence on performance and sustainability remain underexplored. Understanding these dynamics is critical for identifying actionable interventions that can streamline agricultural operations and enhance profitability for farmers in these areas (Okunola et al., 2020; Omotayo & Oluwasola, 2021).

Agriculture remains a critical sector in Nigeria, contributing significantly to employment and economic growth. However, farmers in suburban areas face numerous challenges that threaten their efficiency and sustainability, such as supply chain inefficiencies and exposure to agricultural risks. Agripreneurial orientation—a farmer's capacity to integrate innovative, proactive, and risk-taking strategies into their operations—has emerged as a pivotal approach for navigating these challenges. This orientation is critical in ensuring that farmers can adopt innovative supply chain practices and implement risk management strategies tailored to their unique contexts (Gandhi & Mohan, 2021; Kareem & Adepoju, 2020). Particularly in Lagos State, a region marked by rapid urbanization and population growth, addressing these agricultural challenges is crucial for ensuring food security and economic resilience (Ogunniyi

et al., 2019; Yusuf, 2020).The dynamics of agricultural supply chains in suburban Lagos are significantly influenced by infrastructural deficits, logistical constraints, and market volatility. These factors often disrupt the smooth flow of inputs and outputs, increasing costs and reducing profitability for farmers (Adetunji et al., 2021; Obayelu et al., 2018). For agripreneurs to overcome these hurdles, there is a need to foster strategic relationships within supply chain networks and leverage technology for efficiency. Studies indicate that the adoption of digital tools for inventory management, market access, and distribution can transform traditional supply chains into more robust systems, thus enabling farmers to enhance their operational efficiencies (Adewumi & Ajiboye, 2021; Chikaire et al., 2020).

Risk management in agriculture is another pressing issue that disproportionately affects suburban farmers. Climatic variability, pest outbreaks, and fluctuating market prices pose significant threats to the stability and sustainability of farming operations (Edewor et al., 2022; Fapojuwo& Adeoye, 2020). Agripreneurs with a high orientation toward risk mitigation often implement insurance schemes, diversification strategies, and adaptive farming practices to safeguard their operations against potential losses (Aderemi et al., 2019; Oyetade et al., 2021). However, the extent to which farmers in Lagos State adopt such measures remains understudied, raising concerns about their long-term resilience.

The objectives of this study are toassess the level of agripreneurial orientation among farmers in the suburbs of Lagos State, Nigeria; identify the supply chain value processes that farmers engage in and their impact on their performance and sustainability; and examine the sources and types of risks that farmers face and their risk appetites and coping strategies.

Literature Review

Conceptual Review

Agripreneurial Orientation

Agripreneurial orientation is a multidimensional concept encompassing innovation, risk-taking, and proactiveness within the agricultural sector. It represents a strategic approach where farmers adopt entrepreneurial practices to enhance productivity and navigate challenges in the agricultural value chain (Gandhi & Mohan, 2021). Innovation, one of its core dimensions, involves implementing new technologies, methods, and products to improve efficiency and output. For instance, the use of precision farming technologies and improved crop varieties has been shown to boost yields while reducing environmental impact (Kareem & Adepoju, 2020).Risk-taking is another critical component, highlighting the willingness of farmers to invest in high-reward ventures despite uncertainties. This characteristic is crucial in dynamic environments like Lagos suburbs, where market volatility, environmental risks, and resource constraints often pose significant challenges

(Ogunniyi et al., 2019). Proactiveness, the third dimension, reflects a forward-looking perspective, enabling farmers to anticipate market trends and adapt their practices accordingly. Research underscores that agripreneurial orientation fosters resilience and competitiveness, particularly for smallholder farmers who face resource limitations (Adeyemo & Ayinde, 2020).

Despite its potential benefits, agripreneurial orientation is not widely adopted among farmers in Lagos suburbs due to limited access to resources, training, and supportive policies. This gap highlights the need for targeted interventions to promote entrepreneurial practices in agriculture. Addressing these issues can empower farmers to leverage agripreneurship for sustainable development, thus contributing to food security and poverty reduction in the region (Obayelu et al., 2018).

Supply Chain Dynamics

The agricultural supply chain encompasses interconnected activities that facilitate the flow of goods, services, and information from farms to consumers. In Lagos suburbs, the dynamics of this supply chain significantly influence farmers' productivity and profitability. Poor infrastructure, inadequate logistics, and fragmented markets are among the key challenges impeding supply chain efficiency (Adetunji et al., 2021). For example, the lack of cold storage facilities often leads to post-harvest losses, particularly for perishable crops like vegetables and fruits. These inefficiencies reduce farmers' incomes and limit their ability to scale their operations.Supply chain value processes, such as production planning, resource allocation, and market integration, play a pivotal role in enhancing agricultural performance. Effective integration of these processes can reduce transaction costs, improve product quality, and increase market access (Okunola et al., 2020). Recent advancements in digital technologies, such as mobile applications for market information and logistics management, have shown promise in streamlining agricultural supply chains. However, their adoption in Lagos suburbs remains limited, partly due to inadequate digital literacy and affordability (Chikaire et al., 2020).

The need for sustainable supply chain practices cannot be overstated. Sustainable practices, such as eco-friendly packaging, waste reduction, and renewable energy utilization, contribute to environmental conservation while enhancing the competitiveness of agricultural products in global markets. Promoting these practices requires a collaborative effort involving policymakers, private sector actors, and farmers to develop inclusive strategies that address supply chain inefficiencies (Obayelu et al., 2018).

Risk Management

Risk management in agriculture is essential for safeguarding productivity and ensuring the stability of farming enterprises. Farmers in Lagos suburbs face numerous risks, including erratic weather conditions,

pest infestations, price volatility, and input shortages (Fapojuwo& Adeoye, 2020). These risks are often interconnected, amplifying their impacts on agricultural output. For instance, prolonged droughts not only reduce crop yields but also increase susceptibility to pests and diseases, further exacerbating losses.Effective risk management involves identifying potential threats, assessing their likelihood and impact, and implementing mitigation strategies. Diversification, crop insurance, and the adoption of climate-resilient farming practices are common strategies employed to manage risks. Diversification reduces dependency on a single crop, thereby spreading risks across multiple revenue streams (Aderemi et al., 2019). Similarly, crop insurance provides financial compensation for losses, enabling farmers to recover and reinvest in their operations. However, the uptake of these strategies is often hindered by limited awareness, affordability, and accessibility.

Coping strategies also vary based on farmers' risk appetites and perceptions. Research shows that farmers with higher risk appetites are more likely to adopt innovative practices and technologies, positioning themselves to capitalize on emerging opportunities (Edewor et al., 2022). Understanding these behavioural patterns is critical for designing targeted interventions that enhance farmers' resilience and adaptability in the face of uncertainties.

Theoretical Review

Resource-Based View (RBV)

The Resource-Based View (RBV) emphasizes that an organization's ability to achieve and sustain a competitive advantage depends on its internal resources, which must be valuable, rare, inimitable, and non-substitutable (Barney, 1991). In the context of agripreneurship, these resources may include technical know-how, innovative farming techniques, access to unique networks, and capital investments. For instance, farmers with the capability to integrate advanced irrigation technologies or high-yield crop varieties can achieve better productivity and market competitiveness (Kareem & Adepoju, 2020). The RBV's relevance to the study lies in its capacity to frame the entrepreneurial orientation of farmers as a key driver of resource optimization and performance.

Farmers operating in resource-constrained environments, such as Lagos suburbs, must leverage their agripreneurial orientation to overcome challenges posed by limited access to inputs, infrastructure, and financial services. RBV highlights the strategic importance of utilizing internal strengths, such as innovative practices and strategic collaborations, to mitigate these constraints (Adeyemo & Ayinde, 2020). This perspective is particularly pertinent in addressing inefficiencies in supply chain dynamics, as farmers who invest in their capabilities are better equipped to adapt to market demands and technological changes.

RBV also provides insights into sustainability by emphasizing the role of internal capabilities in fostering resilience. Farmers who cultivate strong networks with supply chain actors and enhance their knowledge of climate-resilient practices can better withstand shocks such as price volatility and environmental risks. Thus, RBV aligns closely with the study's focus on agripreneurial orientation as a mechanism for enhancing performance and sustainability in the agricultural sector (Ogunniyi et al., 2019).

Contingency Theory

Contingency Theory asserts that there is no one-size-fits-all approach to organizational success; instead, effectiveness depends on the alignment between internal capacities and external environmental factors (Donaldson, 2001). This theory is particularly relevant to farmers in Lagos suburbs, who operate in highly dynamic and unpredictable environments. Factors such as market demand, policy frameworks, and environmental conditions shape the effectiveness of farming practices and strategies. In supply chain management, Contingency Theory underscores the need for flexibility and adaptation. For example, farmers may need to adopt different supply chain models based on the availability of logistics infrastructure, market access, and consumer preferences (Adetunji et al., 2021). This adaptability is critical in mitigating risks associated with supply chain inefficiencies, such as delays, spoilage, and high transaction costs. Moreover, the theory suggests that risk management strategies should be tailored to the specific threats farmers face, including climate variability and price fluctuations.

The integration of Contingency Theory into the study provides a framework for understanding how external factors influence farmers' decision-making processes and outcomes. By aligning agripreneurial orientation with supply chain dynamics and risk management strategies, farmers can achieve greater efficiency and sustainability. This alignment is crucial in addressing the unique challenges of farming in Lagos suburbs, where resource limitations and market fragmentation often hinder progress (Okunola et al., 2020). The adoption of RBV and Contingency Theory offers a dual lens through which to analyse the interplay between internal and external factors in agricultural performance. RBV provides a foundation for examining how agripreneurial orientation enhances resource utilization and innovation, while Contingency Theory highlights the importance of aligning these internal capabilities with external dynamics such as supply chains and risk factors. Together, these theories enable a comprehensive understanding of the factors influencing farmers' performance and sustainability, providing a robust framework for achieving the study objectives.

Empirical Review

Ogunniyi et al. (2019) explored the role of agripreneurial practices in enhancing

productivity among smallholder farmers in Nigeria. Their study found that agripreneurial orientation, particularly in the areas of innovation and proactiveness, significantly improved agricultural output. For instance, farmers who adopted innovative practices, such as mechanized farming and improved irrigation systems, achieved higher yields and profitability. The study emphasized the need for policy interventions to promote entrepreneurial mindsets among farmers, particularly in resource-constrained regions like Lagos suburbs. This finding aligns with the study's focus on agripreneurial orientation as a driver of performance and sustainability.Adetunji et al. (2021) examined supply chain inefficiencies among farmers in Lagos suburbs, identifying poor infrastructure, high transaction costs, and market fragmentation as major barriers. Their research highlighted the potential of digital tools, such as mobile applications for logistics management and market integration, in addressing these challenges. For example, platforms that connect farmers directly with buyers were shown to reduce transaction costs and improve profit margins. The study's findings underscore the importance of streamlining supply chain value processes to enhance agricultural performance, which is a key objective of this research.

Chikaire et al. (2020) investigated the impact of information and communication technology (ICT) on agricultural supply chains in Nigeria. The study revealed that ICT adoption significantly enhances supply chain efficiency by improving information flow, reducing transaction costs, and increasing market access. Farmers who used digital platforms for market price updates and input procurement reported higher incomes and reduced wastage. These findings highlight the transformative potential of technology in overcoming supply chain inefficiencies, supporting the study's focus on supply chain dynamics as a determinant of agricultural sustainability. Fapojuwo and Adeoye (2020) assessed risk management strategies among Nigerian farmers, with a focus on coping mechanisms such as diversification, insurance uptake, and climate-smart practices. They found that crop diversification was the most commonly adopted strategy, reducing farmers' vulnerability to price volatility and environmental shocks. However, the study noted low uptake of crop insurance due to limited awareness and affordability. This aligns with the study's objective of examining farmers' risk appetites and coping strategies, emphasizing the need for targeted interventions to promote effective risk management practices.

Aderemi et al. (2019) explored the relationship between risk appetites and innovative practices among smallholder farmers in Nigeria. Their findings indicated that farmers with higher risk appetites were more likely to adopt new technologies and practices, such as high-yield seeds and mechanized tools. These farmers demonstrated greater resilience to market and environmental shocks, achieving better performance and sustainability. The study underscores the role of risk-taking as a component of agripreneurial orientation,

aligning with the research's conceptual framework. Edewor et al. (2022) examined the effects of climate variability on agricultural productivity in Lagos suburbs, highlighting the importance of robust risk management strategies. Their study found that farmers who adopted climate-resilient practices, such as drought-resistant crops and integrated pest management, experienced lower yield losses during adverse weather conditions. These findings emphasize the need for adaptive strategies to mitigate climate-related risks, supporting the research objective of examining risk management among farmers.

Okunola et al. (2020) analysed sustainability practices among farmers in Lagos suburbs, focusing on the integration of agripreneurial orientation and supply chain dynamics. Their study revealed that farmers who prioritized eco-friendly practices and efficient resource utilization achieved better market competitiveness and long-term viability. The research recommended collaborative efforts among stakeholders to promote sustainable practices, aligning with the study's focus on enhancing performance and sustainability through agripreneurial and supply chain interventions.

3. Methodology

This qualitative study employed a case study design to explore the challenges and opportunities faced by suburban farmers in Lagos State, Nigeria. The approach facilitated an in-depth examination of the lived experiences of these farmers, capturing the complexities of their agricultural practices within the urban context (Yin, 2018). The population comprised suburban farmers engaged in diverse urban and peri-urban agricultural activities, including vegetable production, poultry farming, aquaculture, and small-scale livestock rearing. Purposive sampling was used to recruit participants, allowing the selection of information-rich cases representing varied experiences relevant to the research objectives (Patton, 2002). Inclusion criteria focused on farmers with differing years of experience, farm sizes, and agricultural practices. The sample size was determined by the principle of saturation, where data collection ceased when no new insights emerged (Fuschia& Strauss, 2017).

Semi-structured interviews served as the primary data source, enabling flexibility in exploring themes relevant to the research objectives while maintaining consistency across interviews (Merriam & Tisdell, 2016). An interview guide was developed based on the literature review and refined through pilot testing to ensure clarity and coverage of key topics. The guide addressed themes such as agripreneurial orientation, risk management strategies, supply chain experiences, and coping mechanisms for challenges. Member checking was used to validate the data, with participants reviewing interview transcripts to ensure accuracy (Merriam & Tisdell, 2016). Data triangulation was achieved by incorporating observations and focus groups with agricultural extension agents to enrich and corroborate the findings. Pilot testing of the

interview guide further enhanced its reliability, allowing refinement of questions to ensure clarity and relevance (Castillo, 2019).

Thematic analysis was applied to analyse the qualitative data, following a systematic process of coding, identifying recurring themes, and developing a narrative to represent participants' experiences (Braun & Clarke, 2006). Thematic analysis software facilitated coding and data organization. Rigorous coding practices were maintained to ensure consistency and trustworthiness in the analysis. This methodological approach provided a nuanced understanding of the challenges and opportunities faced by suburban farmers in Lagos State, contributing to targeted interventions and policy recommendations to enhance agricultural practices and improve food security and sustainability.

Results and Interpretations

Agripreneurial Orientation (AO) of Suburban Farmers

Thematic analysis of interview data revealed varying levels of AO among suburban farmers. Some farmers demonstrated a strong entrepreneurial spirit, readily adopting new technologies like hydroponics for vegetable production or experimenting with drought-resistant crop varieties (innovation). Others expressed a willingness to take calculated risks, such as investing in organic certification to access premium markets (risk-taking). However, limited access to financial resources often constrained their ability to implement these innovative practices.

Social networks with other farmers and access to agricultural extension services were identified as key factors influencing AO. Farmers who actively participated in farmer associations or regularly interacted with extension agents displayed a higher level of proactiveness, actively seeking out information on improved farming methods and market opportunities (proactiveness, market orientation). Conversely, farmers with limited social networks or those geographically isolated from extension services tended to rely on traditional practices and expressed less awareness of current market trends.

Table 1: Themes and Interview Excerpts related to AgripreneurialOrientation

Theme	Interview Excerpts
Innovation	"Last year, I attended a workshop on hydroponics and decided to try it out for some of my leafy greens. It's been a learning curve, but the yields are impressive, especially during the dry season."
Proactiveness	"I'm always looking for ways to improve my farm. I regularly attend meetings with the local farmer association and keep in touch with the extension agent to learn about new technologies and best practices."
Risk-Taking	(In response to a question about using a new, more expensive fertilizer) "It's a gamble, but the potential for higher yields is tempting. I've done some research and spoken to other farmers who have used it successfully, so I'm willing to give it a try on a small

	scale first."
Market Orientation	"I used to sell all my vegetables to the local middleman, but the prices were low. Now, I participate in a weekly farmers' market, which allows me to connect directly with consumers and get a better price for my produce."

Supply Chain Involvement and Farm Performance/Sustainability

The analysis revealed that most suburban farmers in Lagos were primarily involved in the production stage of the supply chain, cultivating crops or raising livestock. Access to essential inputs like fertilizers and improved seeds was a major challenge, with some farmers relying on expensive middlemen or informal markets. This often resulted in higher production costs and limited profit margins.

Limited involvement in processing and packaging further hampered farm performance. Many farmers sold their produce unprocessed, leading to potential post-harvest losses and reduced product value. Direct marketing to consumers at farmers' markets or through community-supported agriculture (CSA) initiatives offered higher returns but required additional time and labour investment.

The long-term sustainability of these farms appeared to be linked to their involvement in the supply chain. Reliance on middlemen offered convenience but often resulted in lower profits, potentially hindering reinvestment in the farm. Direct marketing offered greater control and potentially higher income, but its long-term viability depended on factors like maintaining consistent product quality and building a loyal customer base.

Table 2: Analysing Supply Chain Involvement and Farm Performance/Sustainability

Stages of Supply Chain Involvement	Performance Indicators	Sustainability Indicators
Input Acquisition	Limited access, High input costs	Dependence on middlemen, Difficulty securing credit
Production	Moderate yields, Variable product quality	Moderate resource use efficiency, Potential for environmental impact
Processing	Limited value addition	High post-harvest losses, Low product differentiation
Distribution	Reliance on middlemen (low profits) or direct marketing (high labour)	Limited market access, Dependence on external factors

Risk Management, Risk Appetite, and Coping Strategies

Thematic analysis identified weather-related risks (droughts, floods) and market fluctuations as the most significant challenges faced by suburban farmers. Pest

and disease outbreaks were also a concern, particularly for those farmers lacking access to proper pest control methods.

Risk appetite varied among farmers. Some expressed a strong aversion to risk, relying on traditional, low-risk farming practices even if they resulted in lower yields. Others exhibited a higher risk tolerance, diversifying their crops (spreading risk) or experimenting with new technologies despite potential uncertainties.

Several coping strategies were employed by farmers to navigate these risks. Crop diversification was a common strategy, with farmers planting a variety of vegetables or raising different types of livestock to mitigate the impact of a poor harvest or disease outbreak. Traditional knowledge on pest control using natural methods was often utilizedby farmers with limited access to chemical pesticides. Building social networks with other farmers and sharing information proved to be a valuable coping mechanism. Farmers who actively participated in farmer associations reported feeling more prepared to handle unexpected challenges and shared resources or knowledge during difficult times.

However, some limitations were identified regarding coping strategies. Limited access to credit or financial resources often restricted farmers' ability to invest in risk mitigation measures like improved storage facilities to minimize post-harvest losses or drought-resistant seeds to safeguard against unpredictable weather patterns. Additionally, a lack of awareness about crop insurance options or disaster relief programs further limited their ability to manage risk effectively.

Table 3: Themes and Interview Excerpts related to Risk Management

Theme	Interview Excerpts
Types of Risks	"The biggest challenge is the weather. Last year, the floods destroyed half of my vegetable crop. There's nothing you can do about it sometimes."
Risk Appetite	"I'm cautious about trying new things. It's better to stick with what I know works, even if the yields aren't the highest."
Coping Strategies	"We all help each other out in the association. If someone's struggling with a pest problem, we share tips and remedies that have worked for us in the past."

Discussion of Findings

The findings from this study shed light on the experiences of suburban farmers in Lagos State, Nigeria. By analysing their agripreneurial orientation (AO), involvement in the supply chain, and risk management strategies, this discussion interprets these findings within the context of existing literature and explores their

implications for understanding the role of suburban agriculture in Lagos.

The findings demonstrate that Agripreneurial Orientation (AO) among suburban farmers in Lagos varies based on their level of innovation, proactiveness, risk-taking, and market orientation. Farmers who exhibited high AO adopted innovative practices such as hydroponics and drought-resistant crops, reflecting an entrepreneurial mindset aimed at overcoming challenges like seasonal weather variability. This aligns with Lumpkin and Dess's (1996) dimensions of entrepreneurial orientation, which emphasize innovation, proactiveness, and risk-taking as critical components. The observed behaviours of these farmers are also consistent with Schumpeter's theory of innovation, which positions entrepreneurial activities as the driver of economic transformation through the introduction of novel processes or products.

However, financial constraints limited the scalability of these innovations. This finding corroborates the work of Mothibi et al. (2021), who identified inadequate access to credit as a primary barrier to entrepreneurial activities in Sub-Saharan Africa's agricultural sector. Farmers with stronger social networks and access to extension services were more proactive in exploring market opportunities and adopting new methods. This observation reinforces the social capital theory, which underscores the importance of networks and relationships in facilitating resource access and information exchange (Bourdieu, 1986). Conversely, the reliance on traditional practices by isolated farmers highlights the structural challenges of fostering AO in marginalized areas, echoing the findings of Ali et al. (2020) on the rural-urban divide in agripreneurial practices.

The analysis revealed that most suburban farmers are confined to the production stage of the supply chain, facing significant challenges in input acquisition and value addition. Limited access to quality inputs and reliance on middlemen increased production costs and reduced profitability. This finding supports Porter's (1985) value chain framework, which argues that inefficiencies in supply chain activities can diminish competitive advantage and economic returns. Farmers engaged in direct marketing achieved higher profitability but faced labour-intensive demands, consistent with Kahan's (2013) assertion that smallholder farmers often lack the resources to optimize marketing strategies.

The findings also highlight the link between supply chain involvement and farm sustainability. Farmers who diversified into direct marketing managed to increase income but required consistent product quality and market presence to ensure long-term viability. These observations align with the principles of sustainable agriculture outlined by Pretty (2008), which emphasize economic viability, social responsibility, and environmental stewardship. The study by Ojo et al. (2021) also notes that integrating value-added processes such as packaging and processing is critical for improving smallholder farmer sustainability in Nigeria. The reliance on middlemen, while convenient, often resulted in lower margins,

hindering reinvestment and long-term growth.

Weather-related risks, market fluctuations, and pest outbreaks were the predominant challenges faced by suburban farmers, consistent with findings by Morton (2007), who highlighted climate variability as a significant threat to smallholder agriculture in developing countries. Farmers exhibited varying risk appetites, with some adopting innovative practices such as crop diversification to spread risk, while others relied on traditional low-risk methods. This aligns with prospect theory, which suggests that individuals' risk behaviours are influenced by their perception of potential gains or losses (Kahneman & Tversky, 1979).

Coping strategies such as crop diversification, traditional pest control, and reliance on farmer associations reflect adaptive behaviours shaped by resource constraints. The use of farmer associations for information sharing is consistent with the findings of Aina and Oyetunde (2020), who emphasized the importance of collective action in mitigating risks in Nigerian agriculture. However, the limited awareness of formal risk mitigation measures like crop insurance underscores a significant gap in institutional support. This finding is supported by Ume et al. (2022), who argue that inadequate access to financial tools limits farmers' resilience to shocks. Additionally, the inability to invest in storage facilities and drought-resistant seeds highlights the structural constraints impeding effective risk management.

The findings of this study align with and extend existing theoretical frameworks. The adoption of innovative practices and market-oriented behaviours by farmers validates Schumpeter's (1934) theory of innovation and its role in economic progress. Social capital theory is further supported by the observed influence of farmer associations and extension services in enhancing AO and mitigating risks. Porter's (1985) value chain framework is reinforced through the demonstrated link between supply chain integration and economic performance. Moreover, the behavioural patterns observed in risk management resonate with prospect theory, illustrating how farmers' risk appetite influences their decision-making processes.

Conclusion

This study explored the agripreneurial orientation (AO), supply chain involvement, and risk management practices of suburban farmers in Lagos, Nigeria, to understand their impact on farm performance and sustainability. The findings revealed a spectrum of AO levels among farmers, shaped by access to resources, social networks, and extension services. While some farmers demonstrated high levels of innovation, proactiveness, and risk-taking, others relied on traditional practices due to financial and structural constraints. The limited involvement of farmers in value-added supply chain activities emerged as a significant barrier to enhancing profitability and sustainability, with many dependent on middlemen for input acquisition and product

distribution. Risk management strategies, including crop diversification and social networking, were vital for coping with environmental and market uncertainties, but limited institutional support and access to formal tools like crop insurance constrained farmers' ability to mitigate risks effectively. These findings reinforce the importance of entrepreneurial behaviours, supply chain integration, and institutional support in driving agricultural transformation and ensuring the long-term sustainability of suburban farming systems.

Recommendations

To enhance the agripreneurial orientation and overall performance of suburban farmers, targeted interventions are essential. First, improving access to financial resources is critical. Government and financial institutions should collaborate to provide affordable credit facilities tailored to the unique needs of smallholder farmers. Subsidized loan schemes or microfinance initiatives can empower farmers to adopt innovative technologies, invest in risk mitigation measures, and expand their market reach. More so, strengthening agricultural extension services and farmer associations can bridge the knowledge gap and foster proactiveness among farmers. Extension programs should prioritize outreach to geographically isolated areas, offering training in modern farming techniques, market intelligence, and risk management strategies. Furthermore, supporting the formation and functioning of farmer associations can enhance social capital, enabling resource sharing and collective action to address common challenges.

However, policies should encourage greater involvement in the supply chain by promoting value-added activities. Government and non-governmental organizations should provide incentives, such as grants or tax reliefs, for farmers who invest in processing and packaging equipment. Additionally, initiatives like farmer cooperatives or partnerships with private-sector actors can help streamline access to input markets and distribution channels, reducing reliance on middlemen and increasing profitability.Lastly, enhancing institutional support for risk management is essential. Public awareness campaigns about crop insurance options, disaster relief programs, and climate-smart agriculture practices should be launched to equip farmers with tools to handle uncertainties. Subsidizing access to technologies such as drought-resistant seeds and improved storage facilities can further mitigate production risks and reduce post-harvest losses.

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