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Risk Management Practices and Sustainability of Entrepreneurial Projects in Agribusiness Sector in Rivers State

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Abstract

This study examined the nexus between risk management practise and sustainability of entrepreneurial projects in agribusiness sector in Rivers state. The quantitative survey research design was used to obtain data from 384 respondent who worked in agribusiness enterprises in Rivers state. The hypotheses were tested using Spearman Rank Correlation Coefficient on IBM SPSS Version 22.0. The results indicated that risk identification and assessment were positively and significantly correlated with sustainability of agribusiness projects ($r = 0.337$, $p < 0.05$). in the same vein, risk mitigation ($r = 0.254$, $p < 0.05$) and risk monitoring and communication ($r = 0.285$, $p < 0.05$) were also found to have significant positive relationships with the sustainability of agribusiness entrepreneurial projects. These findings showed that good risk management practises facilitate the realisation of better sustainability outcomes in agribusiness. This research concluded that agribusiness ventures are vulnerable and their long-term viability of ventures should be enhanced by strengthening the risk management practises. Hence, It is suggested that entrepreneurs, policymakers, and other stakeholders should focus on capacity building, support of policies, and risk management integration in business strategies in order to have a sustainable development in the sector.

Keywords: *Risk Management, Practice, Sustainability, Entrepreneurial Project, Agribusiness.*

1.0 INTRODUCTION

Agribusiness plays crucial role in economic development in developing economies through significant contribution to revenue and job creation. In Nigeria, agriculture contributes tremendously to the gross domestic product and the number of employment generation, especially in rural areas (National Bureau of Statistics, 2023). Agribusiness entrepreneurial projects are now regarded as the necessary activities that can diversify the economy and limit dependence on oil income in Nigeria. The purpose of agribusiness entrepreneurship comprised of value, agro processing, storage, marketing and provision of inputs, connecting primary production and markets. This kind of entrepreneurship is important because it contribute significantly to rural development, creation of job opportunities, higher household income, and food security (Sutter et al., 2019). Small and medium size enterprises predominate agribusiness in Nigeria, and are important to promotion of innovation and inclusive growth (Ayyagari et al., 2011).

Sustainability of agribusiness is the capability of agricultural businesses to remain economically, environmentally and socially viable and acceptable in the long term (Elkington, 1998; Bocken et al., 2014). Sustainable practises also guarantee that the current needs do not interfere with the needs of future generations. Hence, in Rivers State, it entails controlling soil fertility, minimising the impact of oil pollution on the environment, adjusting to climate change and maintaining constant incomes. Empirical evidence showed that sustainable practises enhance productivity, resilience and profitability (Pretty et al., 2018). This implies that sustainability is an

essential environmental and economic concern. Nonetheless, agribusiness has been challenged by many risks, which have jeopardised its sustainability. Climatic conditions, market volatility, policy changes, financial constraints and infrastructural weaknesses are the risks associated (Hardaker et al., 2015). The impact of climate change with ensuing flooding and unpredictable rainfalls is especially felt in the coastal states such as Rivers State in the production process. It has been found that climate variability has a negative impact on crop production and agricultural revenues in Sub-Saharan Africa (Morton, 2007; Sultan and Gaetani, 2016). Market risks caused by changes in prices and unpredictable demand also make the situation more difficult as prices of agricultural goods in developing countries tend to be volatile because of the supply shocks (Gilbert and Morgan, 2010).

Monetary risks are also of paramount importance and the lack of credit opportunities, high interest rates, and low insurance cover limit the development of agribusiness enterprises in Nigeria. It has been emphasised that finance is essential to the existence of small and medium enterprises (Beck and Demirguc Kunt, 2006; Osano and Languitone, 2016). In Rivers State, most agribusiness entrepreneurs are not formally financed because they work informally and there are no collateral. Planning and long-term investments are further compromised by institutional and policy risks such as unreliable agricultural policies and poor extensions services. The oil spills, gas flaring and land degradation associated with petroleum activities increase the environmental risks in Rivers State, which adversely affect the productivity of the soil and the quality of water. Research explains the reduction in agricultural productivity and rural living standards caused by oil pollution, create doubt and scare away investment in agribusiness (Kadafa, 2012; Nwilo and Badejo, 2006). Risk management in agriculture involves the identification, evaluation, and management of risks by diversification, insurance, adoption of technology, and integration in the market (Hardaker et al., 2015). However, there are numerous small-scale agribusiness entrepreneurs who do not have organised risk management systems and have to use informal strategies to manage the risks like crop diversification and family labour (Dercon, 2002).

The threats to sustainability of agribusiness in Rivers state are frequent flooding, environmental degradation associated with oil exploitation, unstable market prices, poor infrastructure, insufficient credit facilities and poor security among others. These threats combine to influence productivity, cost and profitability. The current problems result in low confidence of investors, low participation of youths, and slow rate of diversifying the economy. Although the latter risks are identified, there are loopholes in the existing risk management strategies in Rivers State agribusiness, and the implementation is usually aimed at boosting production at a cost of overlooking the systemic risk factors. Climate adaptation strategies and financial instruments are not well incorporated in agribusiness planning. This disjointed process requires additional empirical studies to gain a better insight of how each risk factor influences sustainability of agribusiness in Rivers State hence resulting in a manner of formulating specific policies and support mechanisms.

1.1 Hypothesis

Ho_1: There is no significant relationship between risk identification and assessment and sustainability of entrepreneurial projects in agribusiness sector in Rivers State.

Ho_2: There is no significant relationship between risk mitigation and sustainability of entrepreneurial projects in agribusiness sector in Rivers State

Ho_3: There is no significant relationship between risk monitoring and communication and sustainability of entrepreneurial projects in agribusiness sector in Rivers State.

2.0 LITERATURE REVIEW

2.1 Risk in Agribusiness

Unpredictability of the biological processes and the complexity of trade networks across the globe are the two factors that dominate the risk landscape in agribusiness (Borah et al., 2024). Studies divides these threats into five distinct but interrelated areas namely, production, market, financial, institutional and human risks (Zhao et al., 2020; Imbiri et al., 2021). The production risk is attributed to the continuously fluctuating yield in crops and the productivity of an animal. This has been regarded as the riskiest risk. Financial risk involves the capability of the company to finance its debts and fluctuating cost of capital. On the other hand, market risk is concerned with the changes in price of inputs as well as the products. According to Ho et al. (2018), the integration of these risk categories is significant in terms of knowing the vulnerability of entrepreneurial enterprises on a holistic level. As an illustration, the financial stability of the entire operation will be adversely affected when the markets prices drop abruptly.

The peculiarities of environment and socio-economic conditions in tropical farming environments exacerbate these threats (Borah et al., 2024). Parasites and diseases are accelerated by the tropical conditions which are usually hot and with uncertain rainfall patterns. This increases the biological risk. According to Ullah et al. (2016), farmers in these regions experience a compounded risk because they are more prone to be affected by issues associated with

climate than farmers in temperate regions. This is so because they do not have access to sophisticated systems of irrigation and early warning. In addition, the insurance schemes which are prevalent in the western economies are usually not available in the tropical emerging economies (Linnerooth-Bayer et al., 2011). Agribusiness firms must resort to informal risk-sharing mechanisms since there are no formal safety nets, which do not always suffice in case of large-scale tragedies (Sarker et al., 2019). Consequently, the achievement of agribusiness projects in the tropics in the long term relies on application of proactive adaptation strategies and diversified production systems to reduce these localised pressures (Vermeulen et al., 2018).

2.2 Risk Management Practices

The risk management practises play an extremely significant role in ensuring successful and sustainable entrepreneurship in agriculture ventures. They do this by keenly identifying potential threats, how they are likely to impact on the project and establishing mechanisms of monitoring and acting on them. Changes in the weather, the market, production, finances, and policies are the sources of risks in the agricultural sector, and their mismanagement may predispose the projects to less likely to succeed and less likely to be sustainable in the long run (Imbiri et al., 2021).

Risk identification and assessment: The initial process of any good risk management strategy in the agribusiness environment is the identification and assessment of risk. Risk identification involves the systematic identification of possible sources of risks that can adversely affect project goals, and risk assessment evaluates the likelihood and impact of these risks to prioritise the management (Abbasova, 2025). Risks in agribusiness supply chains are multi-faceted and multi-dimensional. They are market risk, production risk, financial risk, and institutional risk that must be identified early enough to devise effective solutions (Imbiri et al., 2021). Proper risk assessment would assist agribusiness entrepreneur to classify risks in terms of the likelihood of occurrence and severity. This ensures that resources are utilised to address the gravest threats that may become fatal in the sustainability. As an example, robust risk identification practises assist agribusiness operations to prepare in advance to changes in the weather and the market. Such changes are typical of agriculture as crops are easily spoiled, and they are not all-year-round (Imbiri et al., 2021). Agricultural projects may fail to pay attention to the possibility of harmful risks and allocating limited resources without performing a thorough assessment, which would lead to the failure of the projects and a poor sustainability performance.

Risk Mitigation: Risk mitigation involves the development and implementation of plans that are expected to reduce the likelihood or impact of the identified risks. Risk reduction strategies can be applied in agribusiness and can involve cultivating alternative types of crops, applying irrigation technologies, entering into contracts in advance, insuring, and hedging finances, all intended to ensure the business is less exposed to variations in the environment and market (Iqbal et al., 2020). Such a strategy is compatible with the notion, whereby mitigation is proactive to address the underlying factors of vulnerabilities to ensure that agricultural activities can continue over the years. Empirical studies demonstrate that diversification of income and the presence of formal risk transfer (i.e., insurance) could raise the resilience of the agriculture firms and enable them to achieve sustainable performance amid external shocks (Imbiri et al., 2021). Formulated mitigation planning also aids individuals to make choices when they are unaware of what is to take place by offering them fall back plans and additional resources to protect the business endeavours against adverse occurrences and thereby enabling them to remain viable in the long-run.

Risk Monitoring and Communication: In addition to identifying and reducing risks, risk monitoring and communication is help organisations to ensure that the stakeholders are aware of and participate in the entire life cycle of the agricultural projects. Risk monitoring refers to the continuous monitoring of risk indicators and the mitigation control effectiveness. This will enable business owners to identify emerging hazards, and alter their plans when necessary (Abbasova, 2025). Good communication is the sharing of the knowledge of risks with the internal and external stakeholders. This promotes transparency and synchronised response to any threat. Ineffective communication may cause an organisation to take longer to respond, difficult to know who owns risks, and difficult to collaborate with people to make the organisation sustainable (Imbiri et al., 2021).

2.3 Sustainability of Entrepreneurial Projects

Entrepreneurial projects sustainability has gained critical focus in agribusiness with growing exposure to market uncertainty, climate uncertainty, resource unpredictability and regulatory demands. When applied to the entrepreneurial ventures, sustainability can be defined as the capacity of a project to sustain its businesses, create values, and respond to internal and external risks during the course of its existence. The literature views sustainability as a multidimensional construct, which incorporates economic viability, social responsibility, and environmental responsibility, which is commonly referred to as the triple bottom line concept (Elkington, 1998; Purvis et al., 2019). In the context of agribusiness, sustainability is directly associated with risk management procedures that promote resilience and long-term performance in the

context of uncertain operating environments (Meuwissen et al., 2019).

The aspects of sustainability are usually classified into economic, social and environmental aspects. Economic sustainability is connected to profitability, financial stability, its ability to compete in the market, and its ability to make good use of its resources. Empirical evidence shows that agribusiness projects where structured risk management habits are implemented which include diversification, insurance purchase, and financial planning exhibit a stronger economic viability in terms of greater financial stability and less susceptibility to shocks (Hardaker et al., 2015; Meraner and Finger, 2019). Social sustainability is concerned with the welfare of the stakeholders who are employees, local communities, suppliers and customers. This dimension in agribusiness includes equity labour, community involvement, food-related security, and value chains that are inclusive. Studies indicate that socially responsible conducts increase stakeholder trust and legitimacy in addition to long-term survival of entrepreneurial projects (Schaltegger et al., 2016; Younis et al., 2020). Environmental sustainability concerns the efficient management of natural resources, preservation of biodiversity, health of soils, efficiency in the use of water, and emissions of greenhouse gases are minimised. Climate smart agriculture, as well as integrated pest management, are considered the examples of sustainable agricultural practises, which are linked to better ecological performance and increased sensitivity to climate risks (Lipper et al., 2014; Pretty et al., 2018).

Financial, social, and environmental performance indicators are usually used to measure indicators of project sustainability in the agribusiness. Fiscal measures comprise profitability ratios, growth in revenue, cash flow stability as well as return on investment. The social indicators include employment creation, satisfaction of stakeholders, adherence to labour standards, and contributions to development of community. Examples of environmental indicators are efficiency of resource use, minimising of wastes, carbon footprint, and sustainable farming practises. The overall project resilience and long-term viability have also been measured by composite sustainability indices (Bockstaller et al., 2017; Meuwissen et al., 2019).

2.4 Relationship between Risk Management and Project Sustainability

Risk management and project sustainability have been given more and more consideration in agribusiness research because the industry has been facing numerous uncertainties in climatic, market, financial and institutional aspects. Risk management is the logical process of identifying, evaluating, and reacting on the possible occurrences that can negatively influence project missions (Project Management Institute, 2021). Resilience and adaptive capacity as well as long term viability is improved by good risk management practises in entrepreneurial agribusiness projects. According to scholars, project sustainability has economic, social, and environmental aspects, and risk management is the core to balanced performance in all of these aspects (Silvius & Schipper, 2014; Sanchez, 2015). In the absence of organised risk management procedures, agribusiness projects and ventures tend to incur cost overruns, production failures and unstable markets that discourage sustainability results.

Empirical research indicates that risk identification and mitigation measures are proactive and offer great benefits in enhancing the project performance and sustainability indicators. Indicatively, the triple bottom line model developed by Elkington emphasises the fact that integrated organisations that incorporate environmental and social risk in strategic decision making have a more sustainable future (Elkington, 2018). Climate variability, pests outbreak, and price volatility are the main risks in agriculture, which endanger income stability and food security. Studies conducted by Komarek et al. (2020) indicate that diversification, insurance, and enhanced forecasting (agricultural risk management tools) lead to sustainable productivity and level of resiliency in the farms. In the same vein, Aven (2016) argues that the effectiveness of organisational ability to deal with uncertainty and improve long term performance relies on holistic risk assessment models.

In the developing economies where agribusiness projects are being run in highly weak institutional and infrastructural environments, risk management becomes even more essential in the sustainability. Research has shown that firms with established risk monitoring and stakeholder engagement systems have a stronger chance of controlling environmental compliance, community relations, and financial risks, and therefore sustainability performance (Olsson et al., 2019). Moreover, the sustainability will also be considered during project risk management activities to make sure that the cases of environmental degradation and social conflicts will be reduced, and it will guarantee continuity and legitimacy of entrepreneurial activities (Martens and Carvalho, 2017).

2.5 Theoretical Review

2.5.1 Enterprise Risk Management Theory

Enterprise Risk Management theory offers a holistic idea of the contribution developed through systematic identification, evaluation, and reaction of risks towards the sustainability of organisations. Enterprise Risk Management was the resultant product of the necessity to overcome the state of fragmentation of risk management

and the implementation of a multi-faceted and strategic risk management of uncertainty throughout the organisation (Hoyt and Liebenberg, 2011; McShane et al., 2011). The Committee of Sponsoring Organisations of the Treadway Commission indicates that Enterprise Risk Management is an effected process and an entity board and management to determine the possible events that can influence the entity and risk management within its risk appetite to offer reasonable assurance as to whether the objectives are achieved (COSO, 2017). It has been shown that, through a solid risk management model, companies in which risk management is implemented in a holistic manner are likely to experience better financial results and better firm values, i.e., better sustainability outcomes (Hoyt and Liebenberg, 2011; Florio and Leoni, 2017).

The climatic variability, price fluctuations, pest infestations, policy uncertainties, and disturbances in the supply chain expose the agribusiness entrepreneurs to risks in their entrepreneurial projects. The integrated risk management approach allows the promoter of the projects to predict the environmental and market shocks, formulate mitigation strategies, and coordinate the decisions taken during the operations with the long-term sustainability goals. As Gordon et al. (2009) show, the effectiveness of Enterprise Risk Management is positively related with the performance of the firm when it is adjusted to the strategic and contextual conditions of the organisation. The alignment is especially pertinent in the sphere of agribusiness where sustainability also speaks of economic feasibility, environmental protection, and social responsibility. With this risk assessment integrated into the processes of planning, monitoring, and control, the entrepreneurial agribusiness projects will be in a better position to sustain cash flows, guarantee the natural resources base, and secure the interests of the stakeholders. As such, the theory of Enterprise Risk Management will justify the claim that operationalized risk management policies increase the resilience of a project and its long-life sustainability in agribusiness initiatives.

2.5.2 Resource Based View

The Resource Based View also reinforces the theoretical premise of the association of risk management practises and sustainability of the entrepreneurial agribusiness projects. Resource Based View is a school of thought that postulates that companies attain long term competitive advantage when they have strong resources and capabilities that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Risk management capability can be approached as a strategic company asset that will allow companies to handle less uncertainty than their rivals. The empirical evidence indicates that the capabilities within the managerial processes and routines are key determinants of long-term performance and survival (Newbert, 2007; Sirmon, Hutt, and Ireland, 2007). Risk management capability such as risk identification skills, risk diversification and risk financial planning and use of insurance and adaptive learning is an intangible asset in agribusiness entrepreneurial projects that has the power to make an organisation resilient. Such capabilities lead to efficient utilisation of physical and natural resources and thus sustainable production processes and consistent returns.

Hart (1995) builds on the Resource Based View by claiming that environmental sustainability may be viewed as the source of competitive advantage when the firms establish capabilities that assist in the prevention of pollution, stewardship of the products, as well as sustainable development. In agribusiness where the core of the production is represented by the natural resources, the incorporation of the ecological risk management with the strategic resources deployment is the guarantee of the ecological and economic sustainability in the long term. Additionally, Aragon Correa and Sharma (2003) show that positive environmental policy leads to better performance in circumstances of uncertainty, which supports the argument that risk responsive capabilities help to improve sustainability performance. The Resource Based View thus describes the manner in which risk management practises when formalised as organisational capabilities turn into strategic resources which lead to durability, flexibility, and value creation sustainability in the entrepreneurial agribusiness ventures.

2.6 Empirical Review

Adnan et al. (2020) reviewed risk management of maize farmers in Bangladesh by conducting a stratified random sampling of 350 maize farmers in different agro-ecological locations. This research uses multivariate probit model to examine the relationship between perceptions of catastrophic risks and risk attitudes of the farmers and the adoption of management options such as contract farming, diversification, and precautionary savings. The findings showed strong interdependence of the risk management instrument usage and that age, education, experience in the extension, monthly household income, farming land, land ownership and risk aversion are important parameters that impact the use of the risk management strategies. The results can be used by decision-makers in an effort to find out the effective risk management strategies. On the same note, a review of literature concerning five significant agricultural risks production, market, institutional, personal, and financial was performed by Komarek et al. (2020). It also showed that there is a considerable emphasis on the risk of production, with 66 out of 3 283 peer-reviewed studies reviewed discussing this the most, and 15 out of 3 283 studies covering more than one type of risk.

Only 18 studies covered all five risk and usually the studies were based on perceptions and not on quantitative effects on farm indicators such as yields and incomes. The authors point out that further detailed analysis should be undertaken to inform useful risk management strategies. Data requirements, as well as the necessity of simulation methods to comprehend several risks at the same time, are challenges.

In Europe, Meuwissen et al. (2019) responded to the growing economic, ecological, and societal pressures of agricultural systems in Europe, and suggested a better resilience. They have defined resilience as the ability of farming systems to continue functioning despite different shocks due to robustness, adaptability and transformability. A framework is introduced to evaluate resilience, including specific and general resilience capabilities, with a range of diverse challenges, performance measurement indicators and resilience enhancing properties. The model focuses on the level of farming systems and is able to adapt to the dynamics of changing agricultural systems. The analysis of data is an empirical approach that involves both quantitative and qualitative methods as the mixed approach to analysis. The practicality of the framework is illustrated by a case study of Veenkolonien arable farming system where most of the transformational capabilities of the system are found to be low and the distress experienced by farmers concerning the change. Research by Malik et al. (2020) examines the effects of Enterprise Risk Management (ERM) on the performance of a firm, in particular, the impact of board-level risk committees (BLRCs) on such a relationship. The study using information on 260 FTSE350 listed companies in the UK between 2012 and 2015 indicates that effective ERM has a positive influence on the performance of a firm. Also, an effective BLRC structure of governance increases this relationship. The research arrives at a conclusion that the initiation of a BLRC is a good idea but all depends on its structural strength in ensuring that it undertakes the ERM properly.

A study done by Ndem and Osondu (2018) on the sources of risks and management approaches among 518 cassava farmers in Abia State, Nigeria. The descriptive statistics and Likert scale were used in the study to find the mean age of farmers (48) with a household size of 7 and 59.9 percent were males. Some of the main risks cited were unpredictable rainfall (77.2 percent), poor credit (70.3 percent), low output prices (69.1 percent), pests and diseases (59.1 percent), high costs of inputs (57.5 percent), and poor access to the market (51.7 percent). The research concluded that 69.5 percent of farmers were risk averse and did not always pursue some risk-reducing measures because of its inaccessibility or difficulty of implementation, yet 100 percent of farmers were enterprise diversifiers. The authors suggest that the government and the private sectors should support the development of the complete risk management plans and propose the policies that would encourage the use of formal insurance, cooperative marketing, and forward contracting to reduce the social and market risks.

Gershon and Mbajekwe (2020) selected time series data (1981-2017) to investigate the effects of climate change on the agricultural productivity of Nigeria. The analysis centred on the mean annual rainfall, temperature, and carbon dioxide emission as the indicators of climate change using the data on 17 major crops and index of livestock production. Econometric modelling through autoregressive distributed lag (ARDL) indicated that climate change had long-term relationship with crop production but not with livestock production. It observed that rainfall and CO2 emission have positive impacts on crop yield whereas temperature impacts it negatively on the long term. In livestock production, four period lagged rainfall has a positive influence on the production, and two period lagged temperature as well as one period lagged CO2 emissions has a negative influence. The paper ends with the recommendations of policies to be adopted to realise the sustainable development objectives.

METHODOLOGY

The study adopted the quantitative survey research design, as it was suitable for examining the relationship between risk management practices and sustainability of entrepreneurial projects in agribusiness. The population of the study consisted of registered agribusiness entrepreneurs operating in Rivers State, Nigeria. A representative sample size was determined using the Cochran formulae for infinite population since the exact population of agribusinesses in Rivers state is not known due to dearth of official record on the number. Primary data was collected through a structured questionnaire designed on a Likert scale. The instrument was subjected to content and construct validity through expert review, while reliability was assessed using Cronbach's alpha coefficient to ensure internal consistency (Nunnally & Bernstein, 1994). Data analysis was carried out using Spearman Rank Correlation Coefficient on IBM SPSS Version 22.0. at 0.5 level of significance.

4.0 RESULT, FINDINGS, CONCLUSION AND RECOMMENDATION

In the section, the hypotheses were tested using Spearman Rank Correlation Coefficient on IBM SPSS Version 22.0. at 0.5 level of significance.

Hypothesis One: There is no significant relationship between risk identification and assessment and sustainability of entrepreneurial projects in agribusiness sector in Rivers State.

Table 1: Spearman's Rank Correlation Analysis between risk identification and assessment and sustainability of entrepreneurial projects

Correlations

			Risk Identification and Assessment	Sustainability of Entrepreneurial Projects
Spearman's rho	Risk Identification and Assessment	Correlation Coefficient	1.000	.337**
		Sig. (2-tailed)	.	.000
		N	344	344
	Sustainability of Entrepreneurial Projects	Correlation Coefficient	.337**	1.000
		Sig. (2-tailed)	.000	.
		N	344	344

**. Correlation is significant at the 0.05 level (2-tailed).

Table 1 above on hypothesis one revealed a spearman ranking correlation coefficient of 0.337, indicating a weak linear relationship between risk identification and assessment and sustainability of entrepreneurial projects in agribusiness sector. The P-value of 0.000 which is less than the alpha level of 0.05, showed that there is significant relationship between risk identification and assessment and sustainability of entrepreneurial projects in agribusiness sector.

Hypothesis Two: There is no significant relationship between risk mitigation and sustainability of entrepreneurial projects in agribusiness sector in Rivers State.

Table 2: Spearman's Rank Correlation Analysis between Risk Mitigation and Sustainability of Entrepreneurial Projects

Correlations

			Risk Mitigation	Sustainability of Entrepreneurial Projects
Spearman's rho	Risk Mitigation	Correlation Coefficient	1.000	.254**
		Sig. (2-tailed)	.	.000
		N	344	344
	Sustainability of Entrepreneurial Projects	Correlation Coefficient	.254**	1.000
		Sig. (2-tailed)	.000	.
		N	344	344

**. Correlation is significant at the 0.05 level (2-tailed).

Table 2 above on hypothesis one revealed a spearman ranking correlation coefficient of 0.254, indicating a weak linear relationship between risk mitigation and sustainability of entrepreneurial projects in agribusiness sector. The P-value of 0.000 which is less than the alpha level of 0.05, showed that there is significant relationship between risk mitigation and sustainability of entrepreneurial projects in agribusiness sector.

Hypothesis Three: There is no significant relationship between risk monitoring and communication and sustainability of entrepreneurial projects in agribusiness sector in Rivers State.

Table 3: Spearman's Rank Correlation Analysis between risk monitoring and communication and sustainability of entrepreneurial projects

Correlations

			Risk Monitoring and Communication	Sustainability of Entrepreneurial Projects
Spearman's rho	Risk Monitoring and Communication	Correlation Coefficient	1.000	.285**
		Sig. (2-tailed)	.	.000
		N	344	344
	Sustainability of Entrepreneurial Projects	Correlation Coefficient	.285**	1.000
		Sig. (2-tailed)	.000	.
		N	344	344

**. Correlation is significant at the 0.05 level (2-tailed).

Table 3 above on hypothesis one revealed a spearman ranking correlation coefficient of 0.285, indicating a weak linear relationship between risk monitoring and communication and sustainability of entrepreneurial projects in agribusiness sector. The P-value of 0.000 which is less than the alpha level of 0.05, showed that there is significant relationship between risk monitoring and communication and sustainability of entrepreneurial projects in agribusiness sector.

DISCUSSION

The results in Tables 1-3 showed the findings on the relationship between risk-management practises and sustainability of the entrepreneurial projects in the agribusiness sector in Rivers State. Table 1 on Hypothesis One revealed a Spearman rank correlation coefficient of r = 0.337 indicating a weak correlation between risk identification and assessment and project sustainability. However, the p-value of 0.000 showed that there is a statistically significant relationship between risk identification and assessment and project sustainability. In practise, it implies that the superior methods of identifying and assessing risks are linked with improved sustainability rates. This observation correlates with the extant findings suggesting that the prompt risk detection enhances the decision-making process, minimises the ambiguity, and increases the sustainability (Aven 2018; Hopkin 2018).

On Hypothesis Two, Table 2 revealed a Spearman rho of 0.254 indicating a weak relationship between risk mitigation and sustainability. The p -value of 0.000 indicated a statistical significance. The finding indicates that sustainability is positively affected, although to lower levels, by strategies to reduce or manage the identified risks, e.g., diversification, insurance, contingency planning, etc. This is in tandem with the literature that emphasises the relevance of good risk mitigation in fluctuating conditions (Ondiek and Muathe 2017; Verbano and Venturini 2020).

In addition, Hypothesis three in Table 3 indicated Spearman rank correlation coefficient of 0.285 revealing a weak correlation between risk monitoring and communication and sustainability. However, the p-value of 0.000 indicated a statistically significant positive relationship. This indicated that the sustainability outcomes are enhanced by continuous risk tracking and efficient communication with the stakeholders. This finding is consistent with studies that emphasise timely reaction to emerging risks and harmonisation between participants of the project (Project Management Institute 2021; Zwikael and Meredith 2018).

CONCLUSION

This study explored the connection between various risk management practices, specifically risk identification and assessment, risk mitigation, and risk monitoring and communication and the sustainability of entrepreneurial projects within the agribusiness sector in Rivers State. The findings demonstrated that all three categories of risk management exhibit positive and statistically significant correlations with sustainability, albeit these linkages are comparatively small. Risk identification and evaluation showed the strongest link to sustainability. This shows how important it is to find and evaluate potential hazards in order to make a project more viable. Risk monitoring and communication, as well as risk reduction, also made big

beneficial differences. This shows how important it is to keep track of risks and put controls in place to keep businesses functioning. In conclusion, the study contends that proficient risk management methods are essential for enhancing the sustainability of agribusiness initiatives in Rivers State. However, the tenuous nature of these associations indicates the impact of supplementary factors on sustainability, encompassing access to finance, infrastructural quality, market stability, and managerial proficiency.

Recommendations

1. Systematic risk identification and assessment should be given priority by Agribusiness entrepreneurs. This may be done by conducting periodic environmental scanning, feasibility reports and by using tools of risk-assessment. Training programmes and workshops should be arranged by government agencies and business-development institutions to develop the capacity of the entrepreneurs in this regard.
2. More proactive and diversified risk-reduction methods like insurance policy, product diversification, and financial planning should be embraced by the entrepreneurs. The agribusiness operators should also be assisted by the government and the financial institutions in providing the agricultural insurance and credit facilities easily to absorb the consequences of the risks that are not predictable.
3. There is need for continuous risks monitoring and effective stakeholders' communication. Owners of agribusiness should develop effective communication lines within the organisations and to other stakeholders such as suppliers, customers, and regulatory bodies in a bid to respond to arising risks in a timely manner.

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