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Risk Management and Profitability of Agribusiness Firms in Kiambu County, Kenya

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Abstract

Profitability is a key indicator of performance and sustainability for agribusiness firms in Kenya, particularly in Kiambu County where agriculture plays a vital role in household income and food security. Despite this, many firms in the region have faced stagnant and some a decline in profitability. This study examined the influence of three dimensions of risk management that is fraud prevention, insurance adoption and systematic risk assessment, on the profitability of agribusiness firms in Kiambu County, Kenya. Primary data was collected through semi-structured questionnaires administered to firm managers, finance managers, and internal auditors, with a sample of 55 firms drawn from a population of 64 agribusinesses, resulting to 165 respondents. Data covering the period 2020 to 2024 were analysed using descriptive statistics, multiple regression analysis, and diagnostic tests with SPSS version 21. The findings revealed that systematic risk assessment had a positive and statistically significant effect on profitability**,** while insurance adoption and fraud prevention showed positive but insignificant effects, due to high insurance premiums, delayed claim settlements, and limited integration of fraud control systems in smaller firms. The study concludes that structured risk management is indispensable for sustaining profitability in agribusiness firms. The study recommends that managers institutionalize comprehensive risk assessment processes, adopt cost-effective insurance products aligned to firm needs, and strengthen fraud prevention frameworks. Policymakers are encouraged to support affordable insurance schemes, streamline claim settlement processes, and promote risk management capacity building among agribusiness firms.

Keywords: Risk Management practices, Profitability, Risk Assessment strategies, Insurance Adoption practices, Fraud prevention measures, Agribusiness firms.

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1. Introduction and Background

Agribusiness is crucial for economic growth, food security, and employment, yet it faces persistent hazards such as climate change, market volatility, supply chain disruptions, and financial fraud, all of which compromise profitability and threaten long-term sustainability (World Bank, 2020). Profitability, commonly measured by net profit margin, is a critical benchmark of firm performance because it indicates how effectively revenues are converted into retained earnings after costs, interest, and taxes (Gitman & Zutter, 2019). In agribusiness, profitability is particularly significant as it underpins firms' ability to adopt new technologies, maintain liquidity, expand market share, and generate returns for stakeholders, while also driving rural employment and broader economic development (World Bank, 2020). However, due to their exposure to diverse risks across production, marketing, and financing cycles, agribusiness firms often operate with thin and unstable margins, making effective risk management indispensable for safeguarding assets and enhancing resilience (Food and Agriculture Organization, 2021).

Globally, agribusiness profitability is increasingly undermined by climate variability, pest outbreaks, fluctuating commodity prices, and supply chain disruptions (FAO, 2021). According to the Food and Agriculture Organization (2021), nearly one-third of agricultural production is lost post-harvest, directly eroding profit margins and threatening firm sustainability. The World Bank (2020) further emphasizes that without deliberate risk management practices, agribusiness firms remain financially fragile and unattractive to long-term investors. Similarly, the Organisation for Economic Co-operation and Development [OECD] (2020) highlights that robust financial management, including insurance adoption and systematic risk assessment, is vital to safeguarding profitability and stabilizing returns. Empirical evidence from the International Fund for Agricultural Development [IFAD] (2021) also shows that firms with structured risk management strategies are better positioned to withstand shocks and reinvest in productivity growth. In addition, the African Development Bank [AfDB] (2022) underscores that financial resilience in agribusiness not only enhances firm-level profitability but also drives rural employment and contributes to broader food system stability.

Across Africa, profitability challenges in agribusiness are particularly pronounced. The African Development Bank [AfDB] (2021) estimates that firms lose between 30 to 40% of output due to post-harvest inefficiencies, supply chain disruptions, and unmanaged risks. Similarly, the Alliance for a Green Revolution in Africa [AGRA] (2020) notes that weak infrastructure and market volatility continue to suppress margins for many African agribusinesses. Empirical studies further show that African firms face significant barriers in adopting insurance schemes and structured risk management frameworks, leaving profitability highly vulnerable to external shocks (Mutua & Ndirangu, 2022; Mhlanga, 2020). The United Nations Economic Commission for Africa [UNECA] (2021) also emphasizes that without targeted interventions in risk management and internal control systems, most small and medium agribusinesses struggle to reinvest profits or attract sustainable financing. Collectively, these findings highlight the urgent need for African agribusinesses to integrate risk management practices not only to sustain profitability but also to enhance competitiveness and secure long-term growth.

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In Kenya, agriculture contributes approximately 33 percent to Gross Domestic Product (GDP) and employs over 40 percent of the labour force (Kenya National Bureau of Statistics [KNBS], 2022). Despite its central role, agribusiness firms continue to face profitability challenges arising from fluctuating input costs and weak governance structures such as fraud and ineffective risk assessments (Ministry of Agriculture, 2021). The COVID-19 pandemic further disrupted profitability between 2020 and 2022 by interrupting markets, labour supply, and logistics (KNBS, 2022). These dynamics underscore the importance of effective risk management in safeguarding profitability within the sector.

Kiambu County is a strategic agribusiness hub due to its proximity to Nairobi and its diversified farming systems, which include dairy farming, horticulture, agri-chemicals, and mixed farming (County Government of Kiambu, 2023). While firms in the county benefit from access to large urban markets, they face intense competition, post-harvest losses, and heavy compliance burdens. The County Integrated Development Plan (2023) identifies profitability constraints linked to poor risk management practices, and high taxation costs. Local studies also point to limited adoption of insurance, weak fraud detection systems, and inconsistent risk assessment practices that reduce profitability (Njuguna & Githinji, 2021). Evaluating the impact of risk management practices on the financial performance of agribusiness firms in Kiambu County, this study addressed a critical knowledge gap and provided practical insights for policymakers, future scholars and firm managers.

1.1 Research Problem

Agribusiness enterprises are among the most risk-exposed industries globally, facing production uncertainties, price volatility, fraud, and low uptake of insurance (Food and Agriculture Organization [FAO], 2021; World Bank, 2020). Poor risk management has been linked to financial instability, with studies showing that about 30 percent of agribusiness firms in Sub-Saharan Africa report losses from fraud or unmitigated market shocks annually (World Bank, 2020; United Nations Economic Commission for Africa [UNECA], 2023). In Kenya, profitability in the sector has been unstable, with net profit margins for medium-sized agribusinesses averaging below 10 percent in the past five years, compared to over 15 percent in similar firms in emerging Asian economies (Kenya National Bureau of Statistics [KNBS], 2022; World Bank, 2021).

In Kiambu County, where dairy, horticulture, and agri-chemical businesses dominate, many firms including small-scale dairy cooperatives and mid-tier horticultural exporters, have reported declining margins due to inadequate risk assessment systems, weak fraud controls, and minimal adoption of agricultural insurance (Ministry of Agriculture, 2023; Mutua & Ndirangu, 2022). For instance, a 2022 county report indicated that over 40 percent of agribusiness firms in Kiambu had experienced fraud-related financial losses, while less than 20 percent had comprehensive insurance coverage, directly eroding profitability (Kiambu County Government, 2022).

Despite these realities, few empirical studies in Kenya have quantified how risk assessment, fraud prevention, and insurance adoption collectively influence net profit margins. Existing

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research is either fragmented, overly descriptive, or focused on single practices, leaving a contextual gap on the integrated effect of risk management on profitability in agribusiness firms at the county level (Mutua & Ndirangu, 2022). This study addressed this gap by examining how risk management practices affect profitability in agribusiness firms in Kiambu County.

1.2 General Objectives

The overall goal of this study was to examine if risk management practices affect profitability of agribusiness firms in Kiambu County, Kenya.

1.3 Specific Objectives

i. To assess the effect of risk assessment on profitability of agribusiness firms in Kiambu County, Kenya.
ii. To determine the effect of fraud prevention measures on profitability of agribusiness firms in Kiambu County, Kenya.
iii. To examine the effect of insurance adoption on profitability of agribusiness firms in Kiambu County, Kenya.

1.4 Research Questions

i. How does risk assessment influence profitability of agribusiness firms in Kiambu County, Kenya?
ii. What is the effect of fraud prevention measures on profitability of agribusiness firms in Kiambu County, Kenya?
iii. How does insurance adoption affect profitability of agribusiness firms in Kiambu County, Kenya?

1.5 Scope of the Study

The scope of this study involved an extensive examination of the risk management practices and profitability of agribusinesses located in Kiambu County, Kenya. It entailed a thorough examination of several dimensions of these firm's risk management practices, including risk assessment techniques, fraud prevention measures and insurance adoption and profitability on the business. The research is confined to small and medium agribusiness firms operating in this region. The area was selected due to its vibrant agribusiness sector, which includes agri-chemicals, dairy farming, specialized horticulture, and mixed farming. Data were collected from 165 respondents, drawn from the 55 sampled firms, targeting chief executive officers, finance managers, and internal auditors, whose positions ensured informed responses on these practices and firm performance. The study covered five years (2020-2024) to examine trends and patterns in risk management practices and their long-term effect on profitability.

1.6 Value of the Study

The study holds significant importance to scholarship and practice. First, its primary objective was to enhance the existing literature on risk management practices and financial performance.

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The study investigated a methodological gap where the majority of prior research viewed risk assessment, fraud prevention, and insurance adoption as distinct aspects of risk management. Second, the research contributes to calls for context-sensitive models in business risk management studies by presenting a new institutional dimension to the risk management profitability relationship. Third, unlike much of the prior evidence based on experiments with smallholder farmers, this study uses firm-level data from agribusinesses in Kiambu County, Kenya, thereby enriching county-specific evidence that can guide local policy and firm strategy. Additionally, the study has identified limitations that can guide future researchers in identifying unaddressed gaps in the field, making it valuable for academicians, scholars, and future financial researchers. Furthermore, the study offers indications for further research, allowing future researchers to explore new areas within this domain. The study might also be useful for the Kenyan government in terms of regulating agribusiness firms in the country, as the results aid policymakers in formulating policies that benefit the firms, users and the local economy at large. The literature review, empirical analysis, and research findings have relevance for researchers as they delve into the interconnectedness between effective risk management strategies and financial performance. This, in turn, facilitates the development of conceptual and empirical models that can address profitability issues and yield higher profits and returns. The findings also provide practical insights for agribusiness managers seeking to enhance profitability through structured risk management, while also informing agribusiness policymakers on how these practices can influence firm-level financial outcomes.

2.0 Literature Review

The literature review examines the theoretical and empirical foundations of how risk management practices affect the profitability of agribusiness firms in Kiambu County, Kenya. It is divided into two parts: the theoretical review, covering the theories that this research studied, and the empirical review, discussing related previous studies.

2.1 Theoretical Review

The theoretical review covers three financial theories that is Profit Maximization Theory, Modern Portfolio Theory and Agency theory, that provide a framework for understanding how risk management practices influences profitability of agribusiness firms in Kiambu County, Kenya.

2.1.1 Profit Maximization Theory

Profit Maximization Theory is rooted in classical economics and posits that the primary objective of a firm is to maximize profits (Milton Friedman, 1970). The theory assumes that firms make rational choices to minimize costs, maximize revenues, and allocate resources efficiently. This theory provides an economic rationale for integrating risk management into operational and financial decision-making. In the agribusiness sector, profitability is highly linked to the capacity to manage risks that affect production and sales. For instance, fluctuations in the prices directly impact cost structures, while uncertainties in output prices influence revenue projections making effective risk management essential to stabilize operations and

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safeguard net profit margins (Njagi & Wanjohi, 2020). In the current research, positioning profitability as the central objective, PMT provides a critical lens for understanding how these risk management practices, directly influence firm performance. Nevertheless, critics argue that the theory is narrow and fails to account for other objectives such as sustainability, social responsibility, and long-term growth (Pant, 2019). For agribusiness firms in Kiambu County, focusing solely on short-term profit maximization could undermine investments in soil conservation and environmental sustainability. Despite this, the theory remains a valid foundation for evaluating whether risk management enhances profitability since profit maximization is still the most quantifiable performance metric in agribusiness.

2.1.2 Modern Portfolio Theory

Modern Portfolio Theory was introduced by Harry Markowitz in 1952 as a ground-breaking model for investment decision-making. The theory emphasizes that risk and return are directly correlated, and that rational investors can maximize returns for a given level of risk through diversification (Markowitz, 1952). Unlike traditional approaches that assessed risks of individual assets, MPT recognizes the covariance between assets and argues that a diversified portfolio reduces unsystematic risk without necessarily lowering expected returns. MPT suggests that investors are rational and risk-averse, opting for portfolios that fall within the efficient frontier (Elton et al., 2014). Applied to Kiambu County context, agribusiness companies may diversify risks and achieve more consistent profits by diversifying across multiple value chains, such as horticulture or dairy farming. For instance, dairy farming may provide steady daily cash flows, while horticulture can yield higher but seasonal returns, thereby balancing the firm's revenue base. Moreover, firms that adopt insurance, hedging instruments, or invest in value addition are essentially applying MPT principles to minimize exposure to shocks (Chukwu & Eze, 2021). However, MPT assumes rational decision-making, efficient markets, and the availability of perfect information (Elton et al., 2014). These assumptions may not hold in developing economies like Kenya, where agribusiness firms face market imperfections, information asymmetry, and limited access to sophisticated risk hedging tools. Small and medium-sized firms may also lack the financial literacy or resources to fully apply portfolio diversification strategies. Despite these limitations, MPT provides a useful framework for analysing how risk diversification strategies contribute to profitability outcomes.

2.1.3 Agency Theory

Agency Theory's merit is its ability to explain financial inefficiencies arising from misaligned interests. Its relevance to this study lies in its ability to explain the impact of how agribusinesses can apply effective risk management strategies to mitigate agency problems and improve firm performance. In agribusiness firms, managers may pursue personal or short-term objectives that conflict with the long-term profitability goals of owners, creating a critical need for risk management mechanisms (Bosse & Phillips, 2016). Agency Theory is particularly relevant in explaining why agribusiness firms must institutionalize risk management mechanisms.

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In Kiambu County, many firms are family-owned or managed by appointed agents, resulting in management failures that directly impact profitability. However, a limitation of the theory is its assumption that all conflicts are economic in nature, overlooking cultural or relational factors that shape governance in local agribusiness firms (Daily et al., 2003). Agency Theory provides a conceptual lens to understand how fraud prevention and risk assessments are not merely compliance measures but strategic tools that align managerial actions with the profit goals of owners. This theoretical underpinning justifies examining the effect of risk management practices on the profitability of agribusiness firms in Kiambu County.

2.2 Empirical Review

This section provides a review of previous studies that explored how risk management practices impacted profitability, especially within agribusiness firms. Its aim was to offer empirical insights into the relationship between risk management practices that is insurance adoption, risk assessment measures, fraud prevention measures and profitability specific to agribusiness firms in Kiambu County, Kenya. The empirical works are as captured below.

2.2.1 Insurance adoption risk management and profitability

Dercon et al. (2014) conducted a randomized control trial with 1,500 smallholder households in rural Ethiopia and found that rainfall insurance adoption led to higher input use and yields. Carter et al., (2017) used panel survey data from Ghana and Malawi and stochastic simulation models, demonstrating that index insurance improved technology adoption and profitability. Greatrex et al. (2015) reviewed case studies across 10 African countries, including Kenya, and highlighted that agricultural insurance uptake remained below 1% of smallholder farmers due to affordability and design issues. In Kenya, Karlan et al. (2014) carried out an RCT with 600 smallholder farmers in Western Kenya and Northern Ghana, showing that bundling insurance with agricultural credit increased investment levels and profitability.

2.2.2 Risk assessment measures and profitability

Suleiman et al. (2020) provided a conceptual framework rather than empirical evidence, arguing for structured approaches to risk identification and evaluation. Ceballos, Kramer, and Robles (2019) used cross-sectional agricultural household survey data from Ethiopia, Kenya, and Malawi and applied econometric modelling to demonstrate that inadequate risk assessment left farmers and agribusinesses vulnerable to weather and market shocks. In Kenya, KNBS (2021) analysed sector-level data from agribusiness cooperatives and large-scale farms, reporting that firms that conducted structured risk assessments achieved more stable profit margins during the 2019–2020 drought period.

2.2.3 Fraud prevention measures and profitability

Githongo (2018), through a qualitative case study of 15 Kenyan enterprises, showed that weak fraud controls led to direct financial losses and reduced profitability. Ngugi and Kerongo (2014) surveyed 42 water companies across Kenya, collecting responses from finance managers and

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auditors; using descriptive statistics and regression, they concluded that internal controls and regular audits reduced financial leakages and improved firm performance. Korir and Kiprop (2020) studied 60 agribusiness firms in Rift Valley, Kenya, using stratified sampling and regression analysis, and found that fraud-prevention mechanisms such as segregation of duties and reconciliations, were positively associated with net profit margin.

2.3 Empirical Gaps

Despite the fact that risk management has been studied extensively in global agribusiness contexts such as Asia, Europe, and Latin America, where farming systems are mechanized and supported by developed financial and insurance markets, limited empirical work has been conducted in Kiambu County, Kenya, despite its critical role in national agricultural production. Existing Kenyan studies often examine agriculture at a broad level limiting the focus on SMEs and cooperatives, thereby overlooking the sector-specific risk exposures and profitability dynamics of agribusiness firms. Kiambu's agribusiness sector is particularly diverse covering dairy farming, specialized horticulture, Agri-chemicals, and mixed farming, yet there is little evidence on how firms within these subsectors manage risks differently and how such practices affect their financial performance.

Additionally, much of the available literature predates the years 2020 to 2024 period, when agribusinesses in Kiambu faced unprecedented challenges due to the COVID-19 pandemic, rising input prices, climate variability, and volatile consumer demand. These developments have reshaped the risk environment, yet their implications for profitability remain largely undocumented. In addition, previous studies often rely on national level analysis, which, while useful for policy discussions, fails to capture the firm level realities of agribusinesses in Kiambu County, where differences in ownership structure, financial capacity, and market orientation determine how risks are managed and profitability sustained. This creates a clear contextual gap in understanding how agribusiness firms in Kiambu navigate financial, operational, and market risks within an evolving and uncertain environment.

3.0 Methodology

The study employed an explanatory cross-sectional research design, which is suitable for examining cause-and-effect relationships in contexts with limited prior empirical evidence (Kothari, 2008; Cooper & Schindler, 2009). The research was conducted in Kiambu County, Kenya, targeting 64 licensed and registered agribusiness firms across dairy farming, specialized horticulture, mixed farming, and agri-chemical enterprises. A purposive sampling technique was used to select three respondents from these firms, namely, the firm manager, the finance manager, and the internal auditor, resulting in a total of 192 target respondents. A stratified random sampling technique was applied to select a sample of 55 firms, yielding a total of 165 respondents. Out of these, 145 valid responses were obtained and analysed to draw conclusions. Data collection spanned a duration of five years, covering the period from 2020 to 2024, encompassing primary data source that was obtained through self-administration of questionnaires. Expert review and pretesting were employed to validate instruments, while

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reliability was confirmed with Cronbach's alpha coefficients above the 0.7 threshold which is regarded adequate for determining that the items in a construct dependably measure the same underlying concept (Kothari, 2004). Quantitative data were analysed using descriptive and inferential statistics. Descriptive statistics include mean, standard deviation, and frequency, whereas inferential statistics include multiple regression analysis (Cooper & Schindler, 2011). The statistical significance between the variables was tested at a 95% confidence level using R-square where the analysis was performed using SPSS software version 21. The results were presented using tables for clarity and comparability.

Multiple regression model below was used to ascertain the link amongst the variables:

$$\mathbf{P = \beta_0 + \beta_1\ IA + \beta_2\ RA + \beta_3\ FPM + \varepsilon}$$

Where:

P = Profitability (measured by net profit margin)
IA = Insurance Adoption
RA = Risk Assessment
FPM = Fraud Prevention Measures
$\mathbf{B_0}$ = The Constant term
$\mathbf{B_0, \beta_1, \beta_2, \beta_3}$ = The regression coefficients
ε = Error term

4.0 Results, Findings and Discussion

This section presents the results of the study with a focus on assessing how risk management practices influence the profitability of agribusiness firms in Kiambu County.

4.1 Descriptive Statistics

The study assessed three dimensions of risk management practices that is; risk assessment, insurance adoption, and fraud prevention, to determine their prevalence among agribusiness firms in Kiambu County. The descriptive results are presented in Table 1.

Table 1: Descriptive Statistics

Statements	N	Mean	Std. Deviation
We regularly conduct financial risk assessments	145	2.92	1.392
Our firm adopts insurance (e.g., asset, crop, livestock insurance	145	3.21	1.394
We have fraud prevention mechanisms in place	145	3.06	1.295
Valid N	**145**		

Source: Research Data (2025)

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The results showed that Kiambu County's agribusiness companies used risk management techniques at a moderate level. The mean of regular risk assessments was 2.92 (Std = 1.392), which indicates that adoption varied amongst firms (Njagi & Wanjohi, 2020). In line with Modern Portfolio Theory, which stresses risk diversification to stabilize returns, insurance uptake scored marginally higher at 3.21 (Std = 1.394), demonstrating recognition of its protective value despite coverage variability (Markowitz, 1952; Olajide & Ogunleye, 2011). A mean of 3.06 (Std = 1.295) was recorded for fraud prevention mechanisms, indicating moderate but uneven implementation. This is consistent with Agency Theory, which emphasizes the importance of governance structures in reducing agency costs and preserving profitability (Mwangi & Kimani, 2021). Overall, the findings suggest that although businesses recognize the value of risk mitigation, there are still weaknesses in systematic risk assessment and fraud control, highlighting the necessity of more robust procedures to boost productivity, reduce losses, and maintain profitability (Oketch, 2020).

4.2 Correlation Analysis

Pearson correlation coefficient was employed to determine the relationship between risk management practices and profitability. The outcomes are displayed below on Table 2.

Table 2: Correlation Coefficients

		Profitability	Risk Management
Profitability	Pearson Correlation	1	.172**
	Sig. (2-tailed)		.038
Risk Management	Pearson Correlation	.172**	1
	Sig. (2-tailed)	.038	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Source: Research Data (2025)

The results of the analysis can be described as statistical correlations between the independent variable and profitability. There exists a reasonably moderate correlation between risk management and profitability which is positively correlated ($r = .172$, $p < .05$), implying that greater financial performance are linked to enhancements in effective risk management.

4.3 Multiple Regression Analysis

To ascertain how risk management practices might affect profitability of agribusiness firms, multiple regression analysis was conducted that is; model summary, regression coefficient and ANOVA. The results are exhibited in Tables 3, 4 and 5.

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Table 3: Regression Model

Model Summary

Model	R	R - Square	Adjusted R Square	Std. Error of the Estimate
1	.724[a]	.524	.517	.29842

a. Predictors: (Constant) Risk Management
b. Dependent variable. Profitability
Source: Research Data (2025)

With a correlation coefficient (R) of 0.724, the regression results in table 3 above demonstrated a strong positive relationship between agribusiness firms' profitability and risk management. 52.4% of the variation in profitability was explained by risk management, according to the R Square value of 0.524, with other factors not included in the model accounting for the remaining 47.6%. The model's dependability was validated by its Adjusted R Square of 0.517, and its low standard error of estimate (0.29842) indicated good predictive accuracy. This suggests that agribusiness companies' profitability is greatly increased by using efficient risk management techniques.

Table 4: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.837	.104		27.297	.000
	Risk Assessment	.084	.023	.308	3.609	.000
	Insurance Adoption	-.032	.022	-.116	-1.420	.158
	Fraud prevention	.009	.025	.032	.376	.708

a Dependent Variable: Profitability
Source: Research Data (2025)

The impact of each risk management strategy on profitability is displayed by the regression coefficients table 4 above. When all predictors are held at zero, the baseline profitability of agribusiness firms is represented by the constant value of 2.837. Profitability was positively and statistically significantly impacted by risk assessment ($B = 0.084$, $t = 3.609$, $p < 0.05$), indicating that increased profitability was linked to better routine risk assessment procedures. There was a negative but statistically insignificant effect of insurance adoption ($B = -0.032$, $t = -1.420$, $p > 0.05$), indicating that changes in insurance uptake were not a significant predictor of profitability. Similarly, fraud prevention showed a marginally positive but negligible effect ($B = 0.009$, $t = 0.376$, $p > 0.05$), suggesting that the effectiveness of the current fraud control measures was

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insufficient to affect profitability. Overall, the findings show that of the three practices, risk assessment is the most important predictor of profitability.

Table 5: ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.619	1	.619	4.368	.038[b]
	Residual	20.258	143	.142		
	Total	20.877	144			

a. Dependent Variable: Profitability

b. Predictors: (Constant), Risk Management

Source: Research Data (2025)

The overall significance of the regression model relating risk management to profitability was examined using the ANOVA results in table 5 above. With one degree of freedom, the regression sum of squares was 0.619, and with 143 degrees of freedom, the residual sum of squares was 20.258, for a total of 20.877. The model was statistically significant, as indicated by the F-statistic of 4.368 and the significance value of 0.038 ($p < 0.05$). This indicates that the regression model fit well for forecasting profitability in agribusiness firms and that risk management strategies had a significant impact on profitability.

5.0 Conclusion

According to the study's results, risk assessment, insurance adoption, and fraud prevention, affect the profitability of agribusiness firms in Kiambu County, Kenya. The findings established that risk assessment is a key driver of profitability, underscoring the importance of systematically identifying and addressing potential threats to operations. While insurance adoption and fraud prevention showed no significant direct effect on profitability**,** their strategic value cannot be overlooked. Insurance provides long-term security against unpredictable shocks, and fraud controls safeguard assets and build stakeholder confidence. Their limited impact in this study highlights the need for agribusiness firms to strengthen the integration of these practices into their broader financial strategies. In conclusion, effective risk management, particularly through structured risk assessment, is essential for sustaining profitability**,** while complementary practices such as insurance and fraud prevention require more deliberate implementation to enhance their contribution to firm performance.

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6.0 Recommendations

The following recommendations are put forward considering the research findings.

6.1 Recommendation to Policy

The government and regulatory bodies, government institutions and regulators should recognize that effective risk management practices contribute directly to the stability and growth of the agribusiness sector. The state should expand affordable agricultural insurance programs, perhaps through public-private partnerships, to reduce the burden of premiums on small and medium-sized agribusiness firms. Claim settlement processes should also be streamlined to ensure that firms realize timely benefits, thereby increasing trust in insurance. In addition, policymakers should design and support capacity-building programs aimed at improving the financial literacy and risk management skills of agribusiness managers. County governments, especially in regions like Kiambu, can collaborate with extension services, universities, and financial institutions to train firms in modern risk assessment techniques and fraud prevention systems.

6.2 Recommendation to Practice

Agribusiness managers should adopt structured risk assessment tools such as digital forecasting, scenario analysis, and risk registers to anticipate and mitigate threats effectively. The limited impact of insurance adoption on profitability reflects its treatment as a compliance measure rather than a strategic investment, hindered by high premiums, slow claims, and limited product awareness thus, agribusinesses should integrate insurance into financial planning and collaborate with insurers to develop affordable, tailored products. Similarly, weak fraud prevention outcomes indicate overreliance on manual systems and weak internal controls, calling for automated detection systems, independent audits, and enhanced staff accountability. Finally, profitability can be strengthened by embedding insurance and fraud prevention within a comprehensive, technology-driven risk management framework that can be supported by capacity building, collaboration with policymakers and insurance providers.

6.3 Recommendation to Theory

This study makes strong contributions to financial and economic theory by demonstrating the profitability implications of risk management practices in agribusiness. The results validate the Modern Portfolio Theory by demonstrating that proactive risk management increases profitability. However, the theories of profit maximization and agency are challenged by the weak short-term effects of insurance and fraud prevention. Future studies should consider integrating alternative perspectives such as Behavioural Finance Theory**,** which explains how managerial perceptions and biases influence decisions about risk, insurance, and fraud controls. Comparative studies across different counties in Kenya or across countries in Sub-Saharan Africa could test whether these theories hold consistently in diverse agricultural and institutional environments. Methodologically, further studies might also adopt longitudinal designs to capture the delayed benefits of insurance and fraud prevention, thereby enriching theoretical applications to agribusiness profitability.

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