

Effect of the Strategic Planning Process on the Performance of Dairy Agribusiness SMEs in Murang'a County, Kenya

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Abstract

Kenya's dairy agribusiness sector is a critical pillar of rural livelihoods and food security, yet many small and medium enterprises (SMEs) continue to experience low productivity, volatile markets, and weak managerial systems. Strategic planning offers a potential mechanism through which these enterprises can clarify goals, align resources, and adapt to dynamic operating environments. Guided by the Resource-Based View and Contingency Theory, this study examined the effect of the strategic planning process on the performance of dairy agribusiness SMEs in Murang'a County, Kenya, with particular attention to vision clarity and the use of documented strategic plans. The study adopted a descriptive cross-sectional design and employed a census of all 40 dairy agribusiness SMEs registered with the Kenya Dairy Board in the county. Four managerial staff were targeted per enterprise, yielding 143 valid responses. Data were collected using structured questionnaires and analyzed using descriptive statistics, Pearson correlation, and simple linear regression. Findings indicate that dairy agribusiness SMEs engage in strategic planning at a moderate level, with responses reflecting partial and uneven adoption of formal planning practices. A large proportion of respondents expressed neutral perceptions regarding goal clarity, market analysis, and long-term planning, suggesting that strategic planning is present but not fully institutionalized. Correlation and regression analyses revealed a positive and statistically significant relationship between strategic planning and firm performance, although the proportion of explained variance was modest. This indicates that while strategic planning contributes meaningfully to performance, it operates alongside other internal and external determinants. The study concludes that structured and participatory strategic planning enhances both financial and non-financial performance outcomes among dairy agribusiness SMEs. It recommends that county governments and sector stakeholders strengthen managerial training, mentorship, and the use of data-driven planning tools to support sustained competitiveness and growth within Kenya's dairy value chain.

Key Words: Strategic Planning, Dairy Agribusiness, SMEs, Performance.

Introduction

The global dairy agribusiness landscape has undergone rapid transformation driven by market liberalization, technological advancement, and evolving consumer preferences for sustainable and traceable food systems. Across developed and emerging economies, micro, small, and medium enterprises (SMEs) play a vital role in milk production, processing, and marketing. Strategic management, particularly strategic planning, has become indispensable in ensuring the long-term viability of these enterprises amid fluctuating commodity prices, environmental pressures, and global competition (Jafri et al., 2024). Studies show that firms which proactively align internal resources with external market opportunities through deliberate planning achieve superior operational and financial performance (Parsons et al., 2020). Strategic planning enables such firms to anticipate environmental shifts, prioritize investments, and strengthen competitive positioning through cost leadership, product diversification, and innovation (Shupyk, 2020).

In Africa, dairy enterprises face a dual challenge of sustaining profitability while enhancing productivity within volatile and resource-limited contexts. Strategic planning thus provides a critical pathway for linking enterprise goals to actionable strategies that address production efficiency, market access, and value-chain integration. Yet many agribusiness SMEs still rely on intuitive rather than evidence-based decision-making processes, limiting their responsiveness to market signals and external shocks (Njogu & Murigi, 2023). Recent scholarship emphasizes that structured strategic planning not only enhances financial outcomes but also builds resilience by improving coordination, knowledge sharing, and innovation adoption (Mbaya, Maina, & Namusonga, 2021).

Kenya's dairy sector is among the most advanced in sub-Saharan Africa, contributing about 4 percent to the national GDP and sustaining over 1.8 million smallholder livelihoods (Kenya Dairy Board, 2023). Despite these achievements, the majority of dairy agribusiness SMEs continue to struggle with operational inefficiency, market fragmentation, and inconsistent profitability. The Murang'a County dairy sub-sector, though endowed with favorable agro-ecological conditions, faces persistent managerial and structural challenges that hinder growth and competitiveness (Kiplagat et al., 2025; Rotich & Kwasira, 2016). Weak strategic orientation, limited data use, and inadequate resource planning compromise the ability of these enterprises to anticipate demand, optimize input costs, and adapt to dynamic consumer trends. Many firms operate informally, guided by short-term objectives rather than long-term strategic frameworks (Gitau, 2019). Consequently, they remain vulnerable to market shocks, policy shifts, and competition from integrated processors (Karanja, 2023).

Empirical research in Kenya and similar economies underscores the role of strategic planning in strengthening performance through better goal alignment, proactive risk management, and systematic monitoring of results (Muriithi, 2017). However, most existing studies have concentrated on large-scale cooperatives or general SME populations, offering limited insights into how strategic planning practices specifically shape the performance of dairy agribusiness SMEs. Moreover, little is known about how these enterprises translate planning processes, such as goal setting, market analysis, and resource allocation, into tangible performance outcomes.

This gap is particularly evident in the context of devolved agricultural governance, where counties like Murang'a have taken increasing responsibility for dairy development but often lack empirical evidence to inform policy and capacity-building interventions.

This study was anchored in the Resource-Based View (RBV) and Contingency Theory, which together provide a robust lens for examining how strategic planning influences firm performance in small and medium enterprises. The RBV posits that organizations achieve superior performance when they effectively deploy valuable, rare, inimitable, and non-substitutable internal resources and capabilities (Barney, 1991; Barney, Ketchen, & Wright, 2021). Within this framework, strategic planning constitutes a critical managerial capability that enables firms to coordinate resources, set priorities, and translate organizational knowledge into coherent strategic action. For dairy agribusiness SMEs, planning processes such as goal setting, market analysis, and resource allocation represent intangible capabilities that can enhance operational efficiency and competitive positioning, particularly in resource-constrained environments (Kozlenkova, Samaha, & Palmatier, 2014). However, RBV alone does not fully explain performance outcomes in volatile and highly contextualized settings such as agribusiness.

Contingency Theory complements this perspective by emphasizing that the effectiveness of strategic practices depends on their alignment with external environmental conditions, including market volatility, regulatory frameworks, and technological uncertainty (Donaldson, 2001; Otle, 2016). In the context of Kenya's dairy sector, where enterprises operate under fluctuating input prices, climate variability, and evolving county-level governance structures, the performance benefits of strategic planning are likely to vary across firms. This suggests that while strategic planning is a necessary managerial capability, its impact on performance is contingent upon contextual factors beyond managerial control. Integrating RBV and Contingency Theory therefore allowed this study to conceptualize strategic planning not as a universally dominant driver of performance, but as an enabling capability whose effectiveness depends on the interaction between internal resources and external environmental conditions. This integrated theoretical framing provides a more nuanced explanation of why strategic planning may yield statistically significant yet modest performance effects among dairy agribusiness SMEs.

Addressing this gap, the present study examined how strategic planning influences the performance of dairy agribusiness SMEs in Murang'a County. It assessed the extent to which enterprises define strategic goals, analyze markets, allocate resources, manage risk, innovate, plan for the long term, and monitor implementation. The study was grounded in the resource-based view (RBV) and contingency theory, which together posit that firm performance depends on the alignment between internal capabilities and external conditions. By focusing on strategic planning as the first dimension of the broader strategic management process, the study sought to determine whether deliberate planning translates into measurable improvements in operational efficiency, profitability, and sustainability.

The study's objective was to examine the effect of the strategic planning process on the performance of dairy agribusiness SMEs in Murang'a County, Kenya. It hypothesized that there is no statistically significant relationship between strategic planning and firm performance. The

analysis provides empirical evidence to guide managerial decision-making, policy interventions, and future academic inquiry on how structured planning contributes to competitiveness and long-term success in Kenya's dairy value chain.

Methodology

Study Design

The study adopted a descriptive cross-sectional design, appropriate for examining relationships among variables at a single point in time (Creswell, 2014). This design allowed collection of quantitative data describing strategic planning practices and their effect on firm performance among dairy agribusiness SMEs in Murang'a County. The design was chosen because it enables statistical comparison across multiple attributes and is suitable for identifying associations between management practices and organizational outcomes within natural business settings.

The research was conducted in Murang'a County, Kenya, a leading dairy-producing region characterized by vibrant small- and medium-scale agribusinesses engaged in milk production, bulking, and marketing. The target population comprised 40 dairy agribusiness SMEs officially registered with the Kenya Dairy Board (KDB). These firms represent the full spectrum of actors in the county's dairy value chain. To capture diverse managerial perspectives, four staff members involved in strategic roles; marketing, finance, operations, or quality assurance, were selected from each enterprise, yielding a total of 160 potential respondents.

Given the modest population size, the study employed a census approach, collecting data from all 40 enterprises to obtain a complete representation of dairy SMEs operating in the county (Creswell & Creswell, 2017). Each enterprise served as a unit of analysis, while individual staff members were the units of observation. This ensured comprehensive coverage of strategic planning practices within each firm and improved the precision of the statistical estimates.

Primary data were gathered using a structured self-administered questionnaire consisting of both closed and Likert-scale items. The instrument captured information on firm characteristics, dimensions of strategic planning, and indicators of performance. Strategic planning was operationalized as a composite managerial process reflecting the extent to which dairy agribusiness SMEs systematically define objectives, analyze their operating environment, allocate resources, manage risk, and monitor strategic actions. The construct was measured using ten Likert-scale items adapted from prior empirical studies on strategic management in SMEs and agribusiness contexts, with each item capturing a distinct but related dimension of the planning process, including goal clarity, market analysis, resource allocation, innovation orientation, risk management, collaboration, long-term planning, workforce development, and performance

monitoring. Responses were recorded on a five-point scale ranging from strongly disagree (1) to strongly agree (5), and item scores were aggregated to form a composite strategic planning index

The study instrument was subjected to pilot testing and reliability analysis to ensure its suitability for the main survey. A pilot study was conducted among five dairy agribusiness MSMEs in Kiambu County, a setting with characteristics comparable to the study area, involving three managerial staff from each firm and yielding a total of 15 respondents. The pilot exercise assessed the clarity, relevance, and feasibility of the questionnaire and informed minor refinements to item wording and sequencing. Internal consistency reliability was evaluated using Cronbach's alpha coefficients, with the strategic planning scale recording a high reliability value ($\alpha = 0.850$). The measured constructs exceeded the minimum threshold of 0.70 recommended in the literature, indicating satisfactory reliability of the instrument. These results confirmed that the questionnaire items were well aligned with the study constructs and suitable for use in the main data collection.

Data Analysis and Model Specification

Quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics (means, standard deviations, frequencies, and percentages) summarized the extent of strategic planning practices. Inferential analysis involved bivariate linear regression to estimate the direct effect of strategic planning on performance of dairy agribusiness SMEs, expressed by the model:

$$Y = \beta_0 + \beta_1 X_1 + \mu$$

Where Y represents the performance of the dairy agribusiness SMEs, X_1 denotes the level of strategic planning score, β_0 is the intercept, β_1 is the regression coefficient, and μ is the error term. Model significance was tested at $\alpha = 0.05$ using the F-statistic.

Before estimating the regression models, diagnostic tests were conducted to confirm that the assumptions of ordinary least squares regression were satisfied. Normality of the composite variables was assessed using the Shapiro–Wilk test, which indicated that strategic planning ($W = 0.9843$, $p = 0.1017$) and performance ($W = 0.9850$, $p = 0.2473$). Multicollinearity among the independent variables was examined using Variance Inflation Factor (VIF) and tolerance statistics, with all VIF values close to unity and tolerance levels well above accepted thresholds, indicating the absence of problematic intercorrelations.

Independence of residuals was assessed using the Durbin–Watson statistic, which yielded a value 2.11 across the estimated model, indicating no evidence of autocorrelation. Homoscedasticity was evaluated using the Breusch–Pagan and White tests; for the strategic planning model, the Breusch–Pagan test produced $\chi^2 = 3.63$, $p = 0.0566$, while the White test

yielded $\chi^2 = 3.77$, $p = 0.152$. These findings confirm that the assumptions of normality, independence, homoscedasticity, and absence of multicollinearity were met, supporting the validity and reliability of the regression estimates.

Ethical considerations

Ethical considerations were observed throughout the study to protect the rights, privacy, and welfare of participants. Ethical approval was obtained from the relevant institutional review structures at Kabarak University, and a research permit was secured from the National Commission for Science, Technology, and Innovation prior to data collection. Participation was voluntary, and informed consent was obtained from all respondents after they were briefed on the study's purpose, procedures, and their right to withdraw at any stage without consequence. To ensure confidentiality and data protection, no personal or business identifiers were collected, and all responses were anonymized using unique codes.

Results and Discussion

The analysis sought to determine how the strategic planning process influences the performance of dairy agribusiness SMEs in Murang'a County. Quantitative data collected from firm representatives were analyzed using descriptive and inferential statistics. The descriptive analysis captured the extent to which enterprises practiced key elements of strategic planning, including goal setting, market analysis, resource allocation, risk management, innovation, and performance monitoring. The inferential analysis focused on establishing whether these planning activities had a significant statistical relationship with overall firm performance.

Descriptive analysis results

To assess the extent to which strategic planning practices were institutionalized among dairy agribusiness SMEs in Murang'a County, respondents were asked to rate ten statements reflecting different dimensions of planning. These included the clarity of strategic goals, market analysis, resource allocation, risk management, innovation, workforce development, collaboration, and monitoring of plans. Responses were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The resulting mean scores and standard deviations are summarized in Table 1.

Table 1

Descriptive Statistics for Strategic Planning Items among Dairy Agribusiness SMEs

Statement	SA 5	A 4	N 3	D 2	SD 1	Mea	Std
The clearly defined strategic goals of the firm contribute to its	1.4% (n=2)	25.2% (n=36)	50.3% (n=72)	21.0% (n=30)	2.1% (n=3)	3.03	0.778

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The firm conducts thorough market analysis to identify growth	1.4% (n=2)	25.9% (n=37)	51.0% (n=73)	21.0% (n=30)	0.7% (n=1)	3.06	0.74 3
The firm effectively utilizes its competitive advantage to enhance	2.1% (n=3)	23.8% (n=34)	51.0% (n=73)	21.0% (n=30)	2.1% (n=3)	3.03	0.78 7
The firm strategically allocates resources to maximize	1.4% (n=2)	25.2% (n=36)	44.1% (n=63)	28.7% (n=41)	0.7% (n=1)	2.98	0.79 1
A well-developed risk management strategy in place in	2.8% (n=4)	21.7% (n=31)	51.7% (n=74)	22.4% (n=32)	1.4% (n=2)	3.02	0.78 2
The firm embraces innovation and actively adopts new	1.4% (n=2)	23.1% (n=33)	51.0% (n=73)	24.5% (n=35)	0.0% (n=0)	3.01	0.73 1
The firm engages in long-term planning that contributes to	1.4% (n=2)	26.6% (n=38)	49.7% (n=71)	21.0% (n=30)	1.4% (n=2)	3.06	0.76 7
The firm invests in developing its workforce which impacts	2.1% (n=3)	24.5% (n=35)	49.7% (n=71)	22.4% (n=32)	1.4% (n=2)	3.03	0.78 2
The firm strategically collaborates with partners to	1.4% (n=2)	25.9% (n=37)	50.3% (n=72)	19.6% (n=28)	2.8% (n=4)	3.03	0.79 1
The firm actively monitors and evaluates its strategic planning	2.8% (n=4)	23.1% (n=33)	49.0% (n=70)	25.2% (n=36)	0.0% (n=0)	3.03	0.77 3

The descriptive findings reveal that most dairy SMEs exhibit moderate levels of engagement in strategic planning activities. Mean scores across all ten items ranged narrowly between 2.98 and 3.06, with standard deviations between 0.73 and 0.79, indicating relatively low variability in responses. Roughly half of the respondents consistently selected the neutral category, suggesting cautious or mixed perceptions regarding the extent to which their firms implement structured planning. A smaller proportion, about one-quarter, agreed that their enterprises set clear goals, conduct market analysis, and allocate resources strategically. These patterns imply that while elements of strategic planning exist in most firms, they are not yet fully embedded as formal management routines, leaving room for greater institutionalization of systematic planning processes across the dairy agribusiness sector in Murang'a County.

The observed concentration of responses around the neutral category and the mean scores clustered near the midpoint of the scale suggest that strategic planning practices among dairy agribusiness SMEs are neither wholly absent nor firmly entrenched. Rather than indicating measurement error, this pattern likely reflects partial formalization of planning processes, where planning activities exist in practice but are not consistently documented, systematically implemented, or uniformly understood across firms. In many SMEs, strategic decisions are often embedded in routine operational activities rather than articulated through formal plans, which may lead respondents to express neutrality when assessing structured planning statements. Additionally, differences in managerial roles and exposure to planning activities within firms may have influenced respondents' ability to confidently agree or disagree with some items.

Inferential statistics

To determine whether strategic planning significantly influences firm performance, a simple linear regression model was fitted with performance as the dependent variable and strategic planning as the independent variable. Model fitness indicators, the analysis of variance (ANOVA), and the estimated regression coefficients are presented in Tables 2, and 3 respectively. The regression tested the null hypothesis that strategic planning has no significant effect on the performance of dairy agribusiness SMEs in Murang'a County.

Table 2

Model Summary for Performance ~ Strategic Planning

Model	R	R ²	Adj_R ²	RMSE	F	p_value
Performance ~ Strategic Planning	0.217	0.0472	0.0405	0.7182	6.9926	0.0091

Table 3: ANOVA for Performance ~ Strategic Planning

Model	term	df	sums of squares	means square	statistic	p.value
Performance ~ Strategic Planning	Strategic Planning	1	3.6073	3.6073	6.9926	0.0091
	Residuals	141	72.739	0.5159		

Table 3

Regression Coefficients for Performance ~ Strategic Planning

Model	Term	Estimate	Std. Error	t_value	p_value	CI_Lower	CI_Upper
Performance ~ Strategy Planning	Intercept	1.6576	0.2907	5.702	0.000	1.0829	2.2324
	Strategy Planning	0.2483	0.0939	2.644	0.009	0.0627	0.4339

The regression analysis demonstrated a marginal but positive and statistically significant association between strategic planning and firm performance, $F(1,141) = 6.99$, $p = 0.009$; however, the explanatory power of the model was modest. Strategic planning accounted for approximately 4.7% of the observed variation in performance ($R^2 = 0.047$), indicating that while planning contributes to performance outcomes, it represents only one of several factors influencing the success of dairy agribusiness SMEs. The estimated regression coefficient ($\beta =$

0.25, $t = 2.64$, $p = 0.009$, 95% CI [0.06, 0.43]) suggests a small-to-moderate effect size, implying that incremental improvements in structured planning practices are associated with measurable, though limited, gains in performance. This finding underscores the role of strategic planning as an enabling managerial capability rather than a dominant determinant of firm outcomes. The modest R^2 further reflects the complex operating environment of dairy SMEs, where performance is shaped by multiple contextual factors such as market volatility, input costs, regulatory conditions, and resource constraints that were not explicitly controlled for in the bivariate model. As such, while the null hypothesis is rejected on statistical grounds, the results should be interpreted guardedly, recognizing that strategic planning enhances performance in conjunction with, rather than independently of, other organizational and environmental influences.

Conclusion

This study examined the effect of the strategic planning process on the performance of dairy agribusiness SMEs in Murang'a County and established a positive and statistically significant association between the two. The findings demonstrate that enterprises that engage more systematically in planning activities such as goal definition, market assessment, and resource alignment tend to achieve comparatively better performance outcomes. While the magnitude of this relationship is modest, it provides empirical evidence that strategic planning contributes meaningfully to firm performance within the dairy agribusiness sector. The results therefore confirm that planning remains a relevant managerial practice even in resource constrained SME environments. This supports earlier empirical work that identifies planning as a foundational element of effective strategic management in small firms. The study thus reinforces the view that structured planning enhances managerial discipline and organizational focus.

Interpreted through the Resource Based View, strategic planning emerges as an intangible managerial capability that enables firms to coordinate internal resources more effectively and translate strategic intent into operational action. The presence of a statistically significant relationship, despite limited explanatory power, suggests that planning contributes to performance by improving internal alignment rather than directly driving outcomes in isolation. Contingency Theory further explains this pattern by emphasizing that the performance effects of managerial practices depend on the external operating environment. In the dairy agribusiness context, factors such as price volatility, climatic uncertainty, regulatory frameworks, and market access shape how planning capabilities are realized in practice. Strategic planning therefore operates within a broader system of interacting influences that jointly determine firm performance.

The findings indicate that strategic planning functions as an enabling mechanism that strengthens organizational coherence, decision consistency, and strategic awareness among dairy agribusiness SMEs. Incremental improvements in planning practices can enhance performance when

combined with complementary operational capabilities and supportive external conditions. This highlights the importance of embedding planning as a continuous process rather than treating it as a one-time administrative exercise. For policymakers and sector stakeholders, the results suggest that interventions aimed at improving SME performance should focus on strengthening planning capacity alongside broader market and institutional support. By empirically linking planning practices to performance outcomes within a county level agribusiness setting, the study contributes context specific evidence to the strategic management literature. It also provides a foundation for future research to explore how planning interacts with other organizational and environmental factors across different agribusiness contexts.

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Conflict of Interest Statement

The authors declare no conflict of interest,

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions

Nicholas: Conceptualization, Methodology, Data Collection, Analysis and Writing

Jeptepkeny: Review & Editing

Zakayo: Validation

Ethical Approval

Ethical approval for this study was obtained from Kabarak University Research Ethics Committee; REF: KABU01/KUREC/001/10/09/25

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