

Roadmap For Quality Management Practices To Foster Performance In Dairy Firms In Kenya-Opportunities And Challenges

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Abstract:

Background: Performance of selected dairy firms in Uasin Gishu Count, Kenya has been declining despite the existence of management teams in the organizations. However, there is lack of knowledge about animal productivity and poor capital are recognized to be among the main challenges that the smallholders need to cope with. This is attributed to limited access to feeds and poor hygienic practices that affect animal health. The purpose of the study was to ascertain effects of QM practices on the performance of the selected dairy farmers in the County government of Uasin Gishu. The research was grounded on three specific objectives: to determine role of continuous improvement and performance of selected dairy firms in County of Uasin Gishu, to assess customer focus influence on performance of selected dairy firms in County of Uasin Gishu, and to evaluate effect of top management commitment on the performance of selected dairy firms in Uasin Gishu County. The study was anchored by Resource Based View theory, Quality Improvement Hypothesis and Dynamic Capabilities Hypothesis.

Materials and Methods: The investigation used descriptive design and targeted 134 respondents from five selected dairy firms in Uasin Gishu County. The investigation used Simple random sampling in selecting 103 participants because it effectively draws smaller sample from a larger population to make inferences about the broader group. Primary data was were collected using questionnaires administered to individuals in Uasin Gishu County, based on five-point Likert scale. SPSS tool was used in data analysis, with results presented using charts, tables, frequency distributions, means, and percentage.

Results: The investigation found that the coefficient for Continuous Improvement was 1.130, indicating for one-unit increase in continuous improvement, performance increased by 1.130 units, holding all other variables constant. The coefficient for customer Focus was 0.456, suggesting unit increase in customer focus was associated with 0.456 unit increase in performance, holding other variables constant. Additionally, the coefficient for Top Management was 0.960, indicating that unit increase in the top management commitment resulted in 0.960 unit increase in performance, holding all other variables constant.

Conclusion: Customer focus, continuous improvement, and top management commitment all contribute positively to performance of dairy firms in Uasin Gishu County, Kenya.

Key Word: Performance; Quality Management; Continuous Improvement; Customer Focus; Top Management Commitment.

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I. Introduction

Performance is categorized into two; financial and non-financial dimensions. Financial performance includes profitability, growth, and market value, while non-financial/strategic performance measures customer satisfaction, employee satisfaction, and environmental and social performance (Abuya, 2015). Firms measure their performance by evaluating results of their strategies and quantifying their activities into money value. Financial performance refers to change in financial position or financial results arising from decisions made by managers and their application within the firm (Wickham, 2010).

Quality Management (QM) is a key factor in firm long-term success. QM execution has been vital for improving performance of firm. The relationship between QM and the performance is studied by several intellectuals. When exploring the link among QM and performance researchers have employed various categories of performance such as operational, financial and performance quality. Current study on the management quality has explored link between QM and performance of firm. To meet customer needs and provide superior customer value QM aims on continuous process enhancement within firms (Garakhani & Davood, 2013). QM being an integrated management philosophy applies to both private and public firms. This enables a culture of the continuous improvement over which successful firms are determined to meet customers' needs (Sadikoglu & Olcay, 2014).

Therefore, TQM is adherence to specific goods and services through deliberate and systematic activities (Oaklanda,

The investigation was conducted in Uasin Gishu located in North Rift region in Kenya. This county has got favorable climatic conditions for dairy farming since the cost of producing animals' feeds is low by virtue of availability of fertile land and reliable rainfall which encourages the communities to concentrate on farming activities.

II. Material And Methods

The investigation used descriptive research study design carried out in Tarakwa, Moi's Bridge, Tuiyoluk, Toloita and sirikwa dairy firms in Uasin Gishu County, Kenya.

Study Design: Descriptive research study design

Study Location: Tarakwa, Moi's Bridge, Tuiyoluk, Toloita and sirikwa dairy firms in Uasin Gishu County, Kenya.

Study Duration: January 2024 to February 2025.

Sample size: 134 participants

Subjects & selection method: The target population was 134 participants involving employees of the selected small dairy firms in Uasin Gishu County drawn from the top management, production & Quality, accounts, and marketing departments. The analyst chose these in light of the fact that they were more educated regarding the organizations' quality administration practices and execution. Mugenda and Mugenda (2009) argued that a population target incorporates total cluster of peoples with similar characteristics where the sample can be gotten for reasons of carrying the research.

Simple random sample technique was used because it culls a modest example size from a bigger populace and utilize it to make speculations about the bigger gathering. This included every individual from the bigger populace bunch being allocated a number and the following numbers were attracted indiscriminately to contain the example bunch. The objective populace of this examination was 134 respondents and Morgan and Krejcie (1970), recommends that with population of target 134 sample of 103 respondents is recommended. The sample size results are presented in Table 1 below;

Table no 1: Target Population

S/N	Company	Category	Population
1	Tarakwa Dairies	Top Managers	5
		Marketing Staff	10
		Accountants	3
		Production & Quality Staff	10
2	Moi's Bridge Dairies	Top Managers	6
		Marketing Staff	14
		Accountants	5
		Production & Quality Staff	13
3	Tuiyoluk FCS	Top Managers	4
		Marketing Staff	8
		Accountants	2
		Production & Quality staff	7
4	Toiloita FCS	Top Managers	3
		Marketing Staff	6
		Accountants	2
		Production&Quality staff	6
5	Sirikwa Dairies	Top Managers	5
		Marketing Staff	12
		Accountants	3
		Production&Quality staff	10
	Total		134

Procedure methodology: Questionnaires were administered by the research assistants who were trained, where 103 questionnaires were distributed. Descriptive statistics for instance the mean, mode, median, and standard deviations were computed to describe characteristics of variables used in investigation.

Statistical analysis

Analysis of data was done using SPSS and interpreted to determine the magnitude and nature of relationship between variables in study (Greene, 2008). Furthermore regression analysis was done, where the equation regressed was as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where Y is the Performance

α is the Constant

X_1 is the Continuous Improvement

X_2 is the Customer Focus

X_3 is the Top Management Commitment

β_1, β_2 and β_3 are coefficients

ε is the error term

III. Result

This section present results effects of the QM practices on the performance of selected dairy farmers in Uasin Gishu County, Kenya.

Table no 2: Shows Regression model summary of Quality management practices

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.906 ^a	.82	.782	.327876	.022	6.640	3	87	.04592	1.986

a. Predictors: (Constant), Top Management, Continuous Improvement, Customer Focus

b. Dependent Variable: Performance

Source: Survey Data, 2024

The regression model in table 2, which incorporates Customer Focus, Top Management, and Continuous Improvement as predictors, explains significant percentage of variation in Performance, with an R Square value of 0.82. These indicators account for 82% of the variability in Performance. The updated R Square value of 0.782 reinforces the model's strong fit. The F-value of 6.640 and accompanying p-value (0.04592) show that model is statistically significant, implying that predictors considerably enhance the model's fit over a model without them. Durbin-Watson value is 1.986 indicating no substantial autocorrelation in residuals. Overall, these findings suggest that Customer Focus, Top Management and Continuous Improvement are effective predictors of Performance in this dataset.

Table no 3: ANOVA Results

ANOVA ^a						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1 Regression	.206	3	.069	6.640	.04592 ^b	
Residual	9.353	87	.108			
Total	9.559	90				

a. Dependent Variable: Performance

b. Predictors: (Constant), Top Management, Continuous Improvement, Customer Focus

Source: Survey Data, 2024

The result in table 3 show that regression Sum of Squares (SSR) is 0.206 which represent variance explained in the regression model. The predictors i.e. Top Management, Continuous Improvement, and Customer Focus explain 0.206 units of the total variance in performance. The findings also show that Residual Sum of Squares (SSE) was 9.353 which represents variance that is not explained by regression model. The remaining 9.353 units of variance are due to the residuals or errors. The Total Sum of Squares (SST) was 9.559 which is total variance in Performance. The Regression Mean Square of 0.069 represent average amount of variance explained by each predictor while Residual Mean Square of 0.108 represent average amount of variance not explained by model per observation.

The F-value of 6.640 tests null hypothesis where all the coefficients is zero (i.e., predictors do not explain any variance in dependent variable). The P-value of 0.04592 is less than common alpha value of 0.05, therefore model as whole is statistically significant. Thus, there is low probability that observed F-statistic occurred by chance, and thus, predictors significantly contribute to the model.

The ANOVA also indicate that regression model with the predictors (Continuous Improvement, Top Management, and Customer Focus) significantly explains the variance in the Performance. The values suggests

that model explanatory power is significant statistically, meaning predictors are effective in explaining the variability in Performance.

Table no 4: Regression of Coefficients.

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.318	.428		10.099	.000	3.468	5.168
	Continuous Improvement	1.130	.061	-.052	18.246	.027	-.150	.091
	Customer Focus	.456	.061	-.009	7.475	.031	-.126	.115
	Top Management	.960	.42	.133	2.286	.021	-.031	.135

a. Dependent Variable: Performance

Source: Survey Data, 2024

The finding in table 4 above show summary of coefficients. The constant (intercept) of the regression model is 4.318, which means that when predictors are at zero, predicted value of performance is 4.318 and the coefficient is statistically significant ($p < 0.001$). The unstandardized coefficient for Continuous Improvement is 1.130, indicating each unit increase in Continuous Improvement, Performance increases by 1.130 units while other variables are held constant. However, standardized coefficient is -0.052, suggesting a very small effect size in standardized terms. The coefficient is statistically significant ($p = 0.027$). Empirical studies support positive effect CI has on the organizational performance

IV. Discussion

Powell (1995) found that firms implementing continuous improvement (CI) practices report improved efficiency, reduced waste, and increased competitiveness. Additionally, Anand et al. (2009) highlighted that organizations with well-structured CI programs outperform those lacking structured quality improvement efforts.

Despite its benefits, some research suggests direct effect of CI with performance is often moderate due to implementation challenges (Oakland, 2014). The findings indicate that CI is more effective in firms with a strong culture of learning and adaptability (Jha et al., 2022) and its success depend on workforce involvement and continuous training (Bessant & Caffyn, 1997). The findings align with literature, indicating that while CI significantly influences Performance, its effect size remains small. However, insufficient resources and management support may limit effectiveness of the CI efforts (Deming, 1986). This therefore suggests that CI must be integrated with other management practices to maximize its impact.

Additionally, the unstandardized coefficient for the Customer Focus is 0.456, meaning that for each one-unit increase in the Customer Focus, Performance increases by 0.456 units, holding other variables constant. The standardized coefficient (Beta) is -0.009, indicating a very small negative effect size. The coefficient is statistically significant ($p = 0.031$). Customer Focus is strategic orientation that prioritizes customer need and expectation to enhance the satisfaction and success of business (Parasuraman et al., 1988). It aligns with TQM, which asserts that long-term performance is driven by a strong customer-centric approach (Kotler & Keller, 2016). Research has consistently linked customer focus to improved business performance. Homburg et al. (2011) found that firms emphasizing customer relationships and feedback mechanisms experience higher financial returns. Additionally, Zeithaml et al. (1996) reported that companies with a strong customer-oriented culture exhibit quality of superior service and brand loyalty. However, relationship between customer focus and performance is not always straightforward. The findings suggest a weak negative effect size, aligning with studies that caution against over-reliance on the customer-driven strategies. Therefore, while customer focus is essential, its direct effect on performance remains limited when not integrated with broader strategic objectives.

The unstandardized coefficient for Top Management is 0.960, meaning that unit increase in Top Management, increases performance by 0.960 units, holding other variables constant while standardized coefficient (Beta) is 0.133, suggesting small positive effect size. The coefficient is statistically significant ($p = 0.021$). Numerous studies highlight the role of top management in enhancing performance. Flynn et al. (1995) demonstrated that organizations with strong leadership commitment to quality initiatives achieve higher productivity and customer satisfaction. Similarly, Samson & Terzioviski (1999) found that TMC positively correlates with implementation of successful TQM and Lean strategies. This align with literature, indicating a positive but small effect size of TMC on performance. Thus, while leadership commitment is crucial, its direct impact may be constrained by middle-management engagement and employee participation and the impact is amplified when combined with effective execution and organizational support.

From findings in table 4.16 established equation becomes;

$$Y = 4.318 + 1.13 X_1 + 0.456 X_2 + 0.96 X_3$$

Where Y represents the performance, X_1 is continuous Improvement, X_2 is Customer Focus and X_3 is Top Management commitment

Therefore, literature supports the significant role of Customer Focus, Continuous Improvement, and Top Management Commitment in driving Performance. However, consistent with the findings, their individual effect sizes remain small. This suggests that these factors must be implemented holistically rather than in isolation to achieve substantial performance gains.

V. Conclusion

Among the three QM variables, Top Management Commitment demonstrates the strongest influence on performance. This finding reinforces the pivotal role of leadership in driving organizational quality initiatives and strategic decision-making. However, the moderate effect size suggests that while management acknowledges the importance of QM, its commitment does not always translate into tangible action. Effective leadership in quality management requires more than policy formulation; it necessitates proactive engagement, resource allocation, and accountability mechanisms to ensure the successful implementation of QM practices. Without strong leadership support, quality initiatives risk being perceived as peripheral rather than integral to organizational success.

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