



COST LEADERSHIP STRATEGY, COMPETITIVE ADVANTAGE, AND PERFORMANCE: A CROSS-SECTIONAL STUDY IN THE CONTEXT OF MILK PROCESSING FIRMS IN KENYA

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Abstract

Purpose of the study: Cost leadership strategy is driven by economies of scale, economies of scope, and operational efficiency is a remedy to a performance where firms are facing high costs. This study sought to investigate the influence of cost leadership strategy on the performance of milk processing firms in Kenya through the lens of competitive advantage as a mediator.

Methodology: The study adopted descriptive and explanatory non-experimental research designs. It was a census of all 29 milk processing firms registered with Kenya Dairy Board as of June 2019. Sampling was done using proportionate stratified random sampling technique and data was collected using self-administered semi-structured questionnaires. The analysis was done using means, standard deviations, and regression.

Main Findings: The findings showed that a cost leadership strategy had a positive and significant effect on the performance of milk processing firms in Kenya with a competitive advantage partially mediating the relationship. The constituent measures of cost leadership strategy namely economies of scale, economies of scope, and operational efficiency accounted for 40.1% of the variation in firm performance.

Applications of this study: This study provides suggestions for firms to manage costs and therefore improve performance. This is by increasing the size of operations, expanding into related business areas, and improving operational processes.

Novelty/originality of this study: The study examines the influence of cost leadership strategy in a new context of milk processing firms in Kenya. It also incorporates a competitive advantage as a significant variable affecting the relationship between costs and performance.

Keywords: Firm Performance, Cost Leadership Strategy, Competitive Advantage, Milk Processing Firms in Kenya.

INTRODUCTION

Firm performance is a central theme in strategic management academia and practice (Njoroge *et al.*, 2016; Kimiti & Kilika, 2018; Echwa & Murigi, 2019). Performance should be broadly assessed to address the limitations associated with using either financial or non-financial measures only (Wang & Lo, 2003; Wanjiru *et al.*, 2019). Performance defines the very essence of firm existence and its relative contribution within the industry to both individuals and the national economy. The performance of the Kenyan food processing sector attracts considerable interest being a major driver of economic growth (Kyengo *et al.*, 2019). It is currently among the sectors classified as essential services under the measures to combat the COVID-19 pandemic (Government of Kenya, 2020). The milk processing industry, a part of this sector, likewise contributes significantly in economic terms and nutritionally (Wambugu *et al.*, 2011). The industry also generates several jobs directly and in related supportive services (Mwangi & Gakobo, 2018).

As a consequence, there have been numerous supportive reforms and policies in the industry including tax rebates and zero-rating of milk processing inputs (Ministry of Agriculture, Livestock and Fisheries, 2013). However, despite opportunities and potential for growth, the industry shows dismal performance characterized by low-profit margins (Bebe *et al.*, 2017). Milk uptake by the processors continues to drop, an indication of declining performance (Chege & Oloko, 2017). Poor performance has also resulted in the collapse of some of the processors while others show retarded growth (Mwangi & Gakobo, 2018).

In addition, the general contribution of food processing firms to the GDP has been declining over time (Kyengo *et al.*, 2019). Coupling these performance difficulties is extreme competition in the industry with the main competitive challenge being able to produce low-cost products for a market population most of whom live below the poverty line. The local competition is aggravated by processed milk products imported from Europe. The key performance objective for the milk processors, therefore, remains how to gain competitive advantage through low-cost operation to realize superior performance.



[Lechner and Gudmundsson \(2014\)](#) observed a relationship between strategy, competitive advantage, and superior firm performance. Cost orientation is among strategic orientations which have attracted enormous scholarly attention and whose effect on firm performance has been empirically ascertained ([Theodosiou et al., 2012](#); [Birjandi et al., 2014](#); [Hilman & Kaliappen, 2014](#); [Nyauncho & Nyamweya, 2015](#); [Gorondutse & Gawuna, 2017](#)). It is a key approach for addressing performance challenges, particularly high costs. Further, it is the most pursued competitive option in pure strategy firms while the success of a hybrid strategy relies on having low cost as the dominant component ([Spanos et al., 2004](#); [Hansen et al., 2015](#)). Among the different drivers of cost leadership strategy, economies of scale, economies of scope, and operational efficiency have been more widely adopted ([Atikiya et al., 2015](#)).

Economies of scale aim at reducing costs through increased efficiency ([Mosheim & Lovell, 2009](#)). [Barney and Hesterly \(2009\)](#) viewed economies of scale as reducing the average cost per unit produced as volume increases. Conversely, economies of scope focus on combining production activities rather than quantity. This allows firms to efficiently multi-task related resources, use available resources optimally, attain synergies in operations, and facilitate the redeployment of resources ([Zahavi & Lavie, 2013](#)). Operational efficiency, on the other hand, is a product of cost control among other factors. [Espirah and Murigi \(2019\)](#) noted that operational efficiency is influenced by effectiveness in the execution of firm processes.

These strategic drivers by providing cost advantages allow firms to gain a competitive edge over rivals ([Lechner & Gudmundsson, 2014](#)). The results are positive performance outcomes. Thus, it is the resultant competitive advantage that gives rise to superior performance rather than the strategies themselves ([Salavou & Halikias, 2009](#)). Scholars view competitive advantage from different perspectives. These include internal sources like resources, capabilities, and knowledge ([Barney, 2001](#); [Ismail et al., 2012](#); [Njoroge et al., 2016](#); [Kyengo et al., 2019](#)); unique knowledge and skilled expertise ([Majeed, 2011](#)); quality, efficiency, innovation and responsiveness to customers ([Vahid et al., 2013](#)); corporate reputation and organizational culture ([Njoroge, 2015](#)); and even through customer satisfaction index ([Mutuku et al., 2019](#)).

From among the foregoing dimensions, the most relevant and sustainable competitive advantage is that from tacit knowledge which is specific and personal ([Njoroge, 2015](#)) and internal capabilities required for converting input into output ([Salim et al., 2019](#)). The milk processing firms in Kenya are striving to build relevant competitive advantage through the pursuit of specific drivers of cost leadership. This necessitates an investigation of the performance outcomes resulting from this strategic orientation. The empirical studies reviewed in the following section were based on different contexts hence their findings are not generalizable to the milk industry in Kenya. This is in addition to contradicting conclusions on the effects of different variables. This study, therefore, aims to establish whether cost leadership strategy affects the performance of the milk processors while examining the mediating of competitive advantage on the direct relationship.

LITERATURE REVIEW

Theoretical Review

Balance Scorecard

Balance Scorecard (BSC) was introduced by [Kaplan and Norton \(1992\)](#) as a performance measurement tool. It has over time developed into an instrument for the management to describe, communicate and implement the strategy ([Kaplan, 2009](#)) as well as a theoretical foundation to guide research questions and methodology ([Krylov, 2019](#); [Sainaghi et al., 2019](#)). BSC provides for broad measures of firm strategy through a variety of financial and non-financial tools. It balances the traditional precision and reliability of financial measures with the drivers of future financial performance ([Niven, 2011](#)). Thus, it depicts firms as more than mere sources of profits for the shareholders and therefore validates accountability to external stakeholders ([Sundin et al., 2010](#)).

The financial perspective focuses on shareholders' interests ([Martello et al., 2016](#)) while the customer perspective is concerned with the firm's customers ([Niven, 2011](#)). Conversely, the internal business perspective relates to business processes which lead to customer and shareholder satisfaction ([Booyse, 2018](#)). Learning and growth perspectives describe approaches that facilitate innovation and growth. Thus as firms implement a cost leadership strategy, the outcomes should relate to the broad performance objectives beyond the financial returns. The model also recognizes the value of competitive advantage in that it is the firms that better position themselves to address the four perspectives of BSC that attain the highest performance.

Resource Based View

Resource Based View (RBV) arose from the seminal works of [Penrose \(1959\)](#) who pegged firm performance on resource possession. It is an influential paradigm in strategic management in understanding the competitive strategies pursued by firms. The greatest value of the theory lies in realizing that superior performance originates from doing things differently ([Armstrong & Baron, 2004](#)). Thus, firms that employ a cost leadership strategy in unique ways will perform better in the industry. RBV advances two principal arguments. First is resource heterogeneity which distinguishes firms from competitors



(Barney, 1991) hence the ability to pursue unique strategies. Second is resource immobility which holds that resources are largely stationary across firms thus sustaining heterogeneity.

Application of the RBV to cost leadership strategy relates to the differences in human resource and knowledge possession by firms. The implementation of competitive strategies requires that firms be aware of the competition (Ormanidhi & Stringa, 2008). The higher the stock of knowledge about the competitive environment a firm has, the better it is in identifying and implementing the best strategic approaches. Further, innovative approaches by firms to lower costs are based on their absorptive capacity. This depends on the current knowledge of resource possession. Thus, it is the amount and type of resources possessed by a firm that defines it, and consequently the uniqueness of the strategy it employs. Human resource is crucial in such strategic choices.

Capability Based View

The Capability Based View (CBV) was introduced by Stalk *et al.* (1992). It is an offshoot of its predecessor, the RBV, and sought to address a major limitation of the RBV which largely focused on the existing state of the firm's internal factors. As a consequence, RBV failed to explain how some initially vibrant firms deteriorated as competition increases. Such firms simply failed to adapt (Harreld *et al.*, 2007) through the adoption of relevant strategies. Monsur and Yoshi (2012) noted that CBV also logically extends Porter's generic competitive strategies including cost leadership strategy. CBV recognizes that firms operate in a highly competitive and dynamic environment. For firms to sustain competitive advantage, they require to regularly refine their strategic orientation by creating dynamic capabilities (Teece *et al.*, 1997). These allow firms to pursue innovative types of competitive advantage given the existing market positions. Barney (2001) observed that to create any advantage, a firm needs to develop such capabilities to transform strategy from theory into practice.

Empirical Review

Various empirical studies have been conducted to determine the effect that cost leadership strategy has on firm performance as well as the mediating effect of competitive advantage.

Cost Leadership Strategy

Kasman (2012) examined how cost-efficiency and economies of scale affected technological growth among commercial banks in Turkey. The study observed that the banks took specific strategic orientations to align with their objectives. The study concluded that economies of scale positively influenced profitability. A study by Richter (2014) on manufacturing firms in Germany argued that internal informational costs decline with economies of scale owing to a wider spread. The findings indicated that economies of scale significantly affected the performance of manufacturing firms.

Matejova *et al.* (2014) hypothesized that a relationship between economic performance and the size of a firm exists. The authors, however, noted that past empirical studies had arrived at contradicting findings. Their study concluded that economies of scale positively influenced the performance of municipalities in Czech up to a certain level, beyond which disadvantages set in. Shah *et al.* (2016) in their study argued that the size of a firm positively affected performance. Findings showed that economies of scale significantly influenced the performance of listed companies in the Pakistan Stock Exchange.

A study by Growitsch and Wetzel (2009) examined the question of which is more efficient between joint and separate production. The authors argued that economies of scope arising from the integration of operations were advantageous. It concluded that economies of scope positively influenced the performance of integrated European railways. Hartarska *et al.* (2011) studied the concept of economies of scope among rural microfinance institutions (MFIs). The study argued that expansion in scope could be more cost-efficient if done by the same MFIs. The authors concluded that scope economies were on average positive.

Zahavi and Lavie (2013) sought to understand how expansion into related product lines affects performance. The findings showed a U-shaped performance effect of economies of scope among USA based software firms. A study by Sporta *et al.* (2017) observed that high operational efficiency was a precursor for competitive advantage in the industry. It concluded that operational efficiency significantly affected the financial performance of banks. Azad *et al.* (2018) hypothesized that efficiency leads to quality production as well as cost savings. Their study found operational efficiency to positively influence the profitability of firms in the Pakistan energy sector.

Competitive Advantage

A study by Monsur and Yoshi (2012) examined the mediating effect competitive advantage had on the relationship between the performance of apparel firms in Bangladesh and vertical integration strategy. The study noted that firms faced fierce competition thus resulting in selected strategies to generate competitive advantage. Competitive advantage was found to be a significant mediator. Talaja *et al.* (2017) explored the indirect effects of market orientation, competitive advantage, and firm

performance. The study noted that previous studies had identified market orientation to be a crucial source of competitive advantage through which it influenced firm performance. Competitive advantage was found to be a significant mediator.

A study by [Sihite \(2018\)](#) sought to establish the mediating role competitive advantage had on the relationship between diversification strategy and corporate sustainability performance. It argued that firms employed different strategies to improve their competitive edge and thus ensure superior performance. The findings showed that competitive advantage was a partial mediator in the relationship. [Mutuku et al. \(2019\)](#) examined the interaction between e-commerce capability and performance among Kenyan commercial banks as mediated by competitive advantage. Competitive advantage was found to be a partial mediator in the relationship. [Wanjiru et al. \(2019\)](#) examined how competitive advantage mediated the interaction between corporate strategies and performance of manufacturing firms in Nairobi City. The study argued that various strategic tools and models such as corporate strategies are employed to achieve competitive advantage hence superior performance. The findings indicated that competitive advantage was a significant mediator.

To achieve the purpose of the study in line with the reviewed literature, the following conceptual framework and hypotheses were developed:

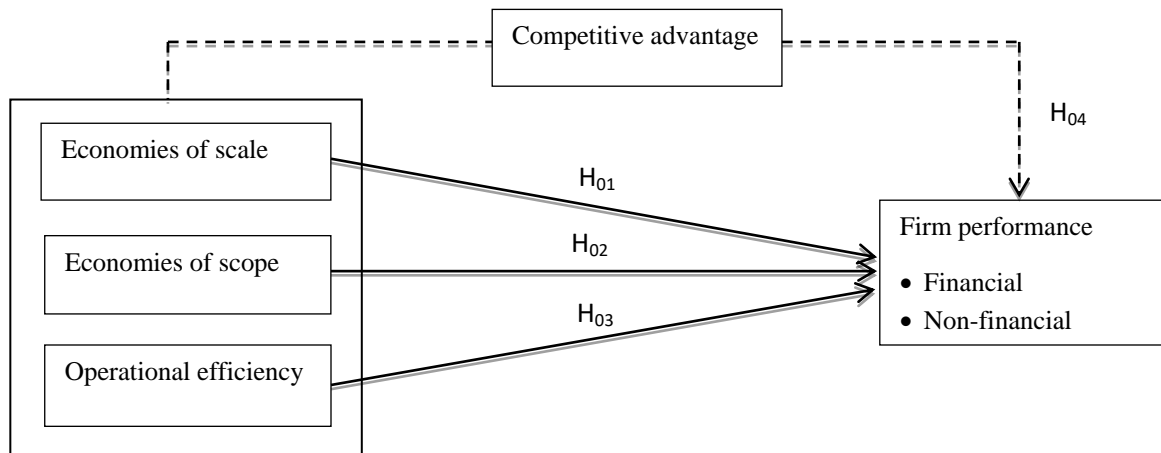


Figure 1: Conceptual Framework

Source: Developed by authors

H₀₁: Economies of scale have no significant effect on the performance of milk processing firms in Kenya.

H₀₂: Economies of scope have no significant effect on the performance of milk processing firms in Kenya.

H₀₃: Operational efficiency has no significant effect on the performance of milk processing firms in Kenya.

H₀₄: Competitive advantage has no significant mediating effect on the relationship between cost leadership strategy and performance of milk processing firms in Kenya.

METHODOLOGY

The study used both descriptive and explanatory non-experimental research designs. Combining different designs is recommended in order to capture the best out of each and allow triangulation of research findings thus raising the validity of the results ([Saunders et al., 2009](#); [Creswell & Creswell, 2017](#); [Wanjiru et al., 2019](#)). The approach allowed the researcher to describe the phenomenon as it exists through the descriptive component and concurrently illustrate cause-effect relationships through the explanatory component. Cost leadership strategy was measured using economies of scale, economies of scope and operational efficiency, firm performance using both financial and non-financial indicators, and competitive advantage using capabilities and knowledge. The sampling frame consisted of the 29 milk processing firms registered with the Kenya Dairy Board (KDB) as of June 2019.

Out of these, 24 firms that processed less than 100,000 litres of milk per day were categorized as small representing 83% while 5 firms that processed 100,000 litres and above per day were categorized as large representing 17%. The unit of analysis used in the study was the milk processing firm while the units of observation were the managers and their deputies from various functional areas. Sampling was done using a proportionate stratified random sampling technique. The key functional areas relevant to the study like executive, operations, production, finance, and marketing were purposively identified. The 5 large processors had all the identified functional areas hence 10 respondents per firm. The 24 small processors had an average of three functional areas hence 6 respondents per firm. This resulted in a population of 194 in two categories of 50 and 144 respectively.



All members of the population were labeled and proportionate samples of 43 and 125 respondents respectively were randomly picked with a resultant sample size of 168 respondents. This large sample was picked to achieve a better estimation of the population and smaller confidence intervals as recommended by Muathe (2010) and Field (2013). Data was collected using self-administered semi-structured questionnaires. Data analysis was done using descriptive and inferential statistics. The analysis was aided by SPSS 20 software. To establish the power of the explanatory variables, economies of scale, economies of scope, and operational efficiency were regressed against performance as guided by the following empirical model:

$$P = \beta_0 + \beta_1 \text{ESA} + \beta_2 \text{ESO} + \beta_3 \text{OE} + \epsilon \dots \text{Model 1}$$

Where; P = Firm performance

ESA = Economies of scale

ESO = Economies of scope

OE = Operational efficiency

β_i = Beta Coefficient

ϵ = Error term

To test for mediation, a causal steps approach proposed by Baron and Kenny (1986) was used. Model 2 was used to estimate the relationship between the explanatory variable (cost leadership strategy) and the outcome variable (firm performance). Model 3 estimated the relationship between the mediating variable (competitive advantage) and the explanatory variable (cost leadership strategy). Model 4 was used to determine the extent of mediation whether total, partial or no mediation.

Step One: CLS predicting P

$$P = \beta_0 + \beta_4 \text{CLS} + \epsilon \dots \text{Model 2}$$

A significant β_4 indicates that cost leadership strategy significantly determines performance.

Step Two: CLS Predicting M

$$M = \beta_0 + \beta_5 \text{CLS} + \epsilon \dots \text{Model 3}$$

A significant β_5 indicates that cost leadership strategy significantly determines competitive advantage.

Step Three: CLS and M Predicting P

$$P = \beta_0 + \beta_6 \text{CLS} + \beta_7 \text{M} + \epsilon \dots \text{Model 4}$$

Significant β_4, β_5 and β_7 and an insignificant β_6 indicate total mediation.

Significant $\beta_4, \beta_5, \beta_6$ and β_7 with $\beta_6 < \beta_4$ indicate partial mediation.

Significant β_4 and β_6 and insignificant β_5 and β_7 with $\beta_6 = \beta_4$ indicate no mediation.

Where; CLS = Cost Leadership Strategy

M = Mediating Variable (Competitive Advantage)

RESULTS AND DISCUSSION

Descriptive Statistics

The study used sample mean and sample standard deviation to summarize measures on the characteristics of the sample. The descriptive statistics results for cost leadership strategy and competitive advantage are shown in Tables 1 and 2 respectively.

Table 1: Descriptive Statistics of Cost Leadership Strategy

Variable	Mean	Standard Deviation
Economies of Scale	3.97	0.94
Economies of Scope	3.75	0.99
Operational Efficiency	4.33	0.74
Average	4.02	0.89

Source: Data processed by authors

From Table 1, operational efficiency was the most adopted driver for cost leadership by the milk processing firms with a mean of 4.33 and standard deviation of 0.74, then economies of scale with a mean of 3.97 and standard deviation of 0.94 while economies of scope were the least adopted driver for cost leadership with a mean of 3.75 and standard deviation of 0.99.

Table 2: Descriptive Statistics of Competitive Advantage

Variable	Mean	Standard Deviation
Capabilities	4.38	0.68
Knowledge	4.06	0.78
Average	4.22	0.73

Source: Data processed by authors

Table 2 shows that capabilities were the prevalent basis of competitive advantage among milk processing firms with a mean of 4.38 and a standard deviation of 0.68 while knowledge was less prevalent with a mean of 4.06 and a standard deviation of 0.78.

Diagnostic Tests

To ensure that regression assumptions were adhered to and data was suitable for regression modeling, several diagnostic tests were conducted. The tests also ensured that results obtained were not spurious and could be used in predicting the effect of cost leadership strategy on the performance of milk processing firms in Kenya. Sampling adequacy was tested using Keiser-Meyer-Olkin (KMO) and yielded a value of $0.828 > 0.5$ implying that the sample size was adequate as recommended by [Field \(2013\)](#). The normality test through Shapiro-Wilk Statistic showed that all variables had p-values greater than 0.05. According to [Razali and Wah \(2011\)](#), this indicated that data on the variables was normally distributed. The Durbin-Watson statistic for the test of autocorrelation was 2.08 meeting the threshold of $1.5 < d < 2.5$ given by [Garson \(2012\)](#). Pearson's correlation coefficient for linearity showed that all variables had positive correlations while none of the variables exceeded the Variance Inflation Factor (VIF) of 10 meaning there was no threat of multicollinearity ([Field, 2009](#)). The heteroscedasticity test, on the other hand, showed that all the variables had Levene statistics with a p-value greater than 0.05 thus meeting the recommendation of [Field \(2013\)](#).

Test of Hypothesis (Direct Relationship)

The results of the regression analysis of cost leadership strategy on firm performance are shown in Table 3.

Table 3: Model Summary

R	R-Square	Adjusted R-Square	Std. Error of the Estimate
.643a	0.413	0.401	0.38517

Predictors: (Constant), Economies of Scale, Economies of Scope and Operational Efficiency

Source: Data processed by authors

The results show adjusted R-square = 0.401 which implied that the three constituent measures of cost leadership strategy namely economies of scale, economies of scope, and operational efficiency accounted for 40.1% of the variation in firm performance. These findings show that the cost leadership approaches are significant predictor variables of firm performance. The findings supported those of [Kasman \(2012\)](#), [Hartarska et al. \(2011\)](#), and [Sporta et al. \(2017\)](#) who concluded that economies of scale, economies of scope, and operational efficiency respectively had a positive and significant influence on firm performance. The results for ANOVA model fitness were statistically significant as shown in Table 4.

Table 4: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.021	3	5.007	33.749	.000 ^b
Residual	21.364	144	.148		
Total	36.384	147			

Dependent Variable: Firm Performance
 Predictors: (Constant), Operational Efficiency, Economies of scope, Economies of scale

Source: Data processed by authors

Table 4 on overall ANOVA revealed F-statistic = 33.749, which was significant at 5% level of significance ($p=.000$). The findings indicated that the model fitted had a goodness of fit and cost leadership approaches significantly explained the

performance of milk processing firms in Kenya. The results concur with those of [Nyauncho and Nyamweya \(2015\)](#) and [Gorondutse and Gawuna \(2017\)](#) who concluded that cost leadership strategy positively affected firm performance. The results for model coefficients are presented in Table 5.

Table 5: Regression Model Coefficients

	β	Std. Error	Beta	t	Sig.
(Constant)	0.923	0.324		2.849	0.005
Economies of Scale	0.135	0.059	0.175	2.307	0.022
Economies of Scope	0.148	0.06	0.18	2.476	0.014
Operational Efficiency	0.493	0.069	0.483	7.134	0.000

Source: Data processed by authors

From the results in Table 5, the optimal model became;

$$P = 0.923 + 0.135 (\text{Economies of Scale}) + 0.148 (\text{Economies of Scope}) + 0.493 (\text{Operational Efficiency}).$$

H₀₁ Economies of scale has no significant effect on the performance of milk processing firms in Kenya

The results showed that the coefficient for economies of scale was $\beta=0.135$, $p=0.022 < 0.05$ signifying that economies of scale had a positive and significant effect on the performance of milk processing firms in Kenya. The conclusion further implied that the increase in economies of scale by one unit would lead to an increase in the performance of the milk processors by 0.135 units. H_{01} was thus rejected. This conclusion emphasizes the role that large-scale operations play in reducing costs and as a consequence contributes to better firm performance. Large scale operations lead to the lower average cost per unit produced as volumes increase ([Barney & Hesterly, 2009](#)). Consequently, the firm enjoys greater benefits relative to competitors in the industry. These findings are consistent with those of [Shah et al. \(2016\)](#) who concluded that large firms had a better financial performance. They also agree with findings by [Kasman's \(2012\)](#) study which concluded that large banks in Turkey enjoyed cost advantages over the smaller banks hence performed better. They further relate to [Richter's \(2014\)](#) conclusion that internal information costs per unit decrease among manufacturing firms as the volume of operation increases.

However, based on [Matejova et al. \(2014\)](#) findings of a U-shaped cost curve where increasing economies of scale persist only up to a certain level and thereafter cost disadvantages set in, firms should be cautious while expanding operations beyond the turning point. This would cushion them from suffering diseconomies of scale. The difference, in conclusion, can, however, be explained by the fact that [Matejova et al. \(2014\)](#) study was based on public service entities whose primary goal may not necessarily be cost minimization. From a theoretical perspective, the RBV argues that firms can perform better in an industry by doing things differently ([Armstrong & Baron, 2004](#)). Such a superior advantage can be attained by applying various aspects of economies of scale in a unique manner.

H₀₂ Economies of scope has no significant effect on the performance of milk processing firms in Kenya

The results showed a beta coefficient of 0.148, $p=0.014 < 0.05$ implying that economies of scope had a positive and significant effect on the performance of the milk processors. This also meant that increase in economies of scope by one unit would increase the performance of the milk processors by 0.148 units. H_{02} was therefore rejected. The contribution of economies of scope to performance was thus affirmed by this conclusion. The cost benefits under economies of scope accrue through joint production hence better asset utilization ([Nyauncho & Nyamweya, 2015](#)).

The findings support [Growitsch and Wetzel's \(2009\)](#) conclusion that integrated European railway firms were more efficient and enjoyed benefits from economies of scope. They are also consistent with [Hartarska et al. \(2011\)](#) who found that scope economies were on average positive mostly due to fixed cost. On the other hand, the findings partially contradict [Zahavi and Lavie's \(2013\)](#) study conclusion of a U-shaped performance effect where too much product relatedness creates negative transfer effects. This means that even as firms expand into related areas they must be aware of possible negative cost and performance outcomes. These outcomes need to be examined broadly as advocated by BSC ([Kaplan & Norton, 1992](#)).

H₀₃ Operational efficiency has no significant effect on the performance of milk processing firms in Kenya

The results indicated that the coefficient for operational efficiency was $\beta=0.493$, $p=0.000 < 0.05$ signifying that operational efficiency had a positive and significant effect on the performance of the milk processing firms. The results implied that increasing operational efficiency by one unit would lead to an increase in the performance of the milk processors by 0.493 units. H_{03} was as a consequence rejected. This showed that milk processors were keen on improving their processes to attain superior performance.

The high beta value of 0.493 indicates the centrality of operational efficiency as a low-cost driver. The study findings agreed with [Sporta et al. \(2017\)](#) who showed a positive relationship between operational efficiency and financial performance of banks in Kenya. This reaffirmed the need to efficiently utilize available resources as a precursor to superior performance. Further, findings by [Azad et al. \(2018\)](#) support the current study's findings by concluding that operational efficiency significantly impacts on firm's profitability. The findings also support the CBV theory postulate that firms operate in a dynamic environment requiring operational efficiency to cope with the changes. Efficiency also means that firms are able to switch between various cost approaches for best performance.

Test of Hypothesis (Mediation Analysis)

H₀₄ Competitive advantage has no significant mediating effect on the relationship between cost leadership strategy and performance of milk processing firms in Kenya

The results of the regression analysis to test for mediation are as follows.

Table 6 (a): Cost Leadership Strategy Predicting Firm Performance

	β	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.472	0.31		4.745	0.000	0.859	2.085
CLS	0.666	0.077	0.583	8.673	0.000	0.514	0.818
R	R Square		Adjusted R Square		Std. Error of the Estimate		
.583a	0.340		0.336		0.40555		
	Sum of Squares	Df		Mean Square	F	Sig.	
Regression	12.372	1		12.372	75.225	.000 ^b	
Residual	24.012	146		.164			
Total	36.384	147					
a. Dependent Variable: Firm Performance							
b. Predictors: (Constant), CLS							

Source: Data processed by authors

The study fitted a model to test whether a cost leadership strategy predicted firm performance. From Table 6 (a), the results show adjusted R-square =0.336 implying that cost leadership strategy accounted for 33.6% of the variation in firm performance. The F-statistics = 75.225 (p=0.000) shows that the model was statistically significant. The results for the regression coefficient show that cost leadership strategy composite had β=0.666, p-value =0.000 meaning that cost leadership strategy significantly predicted the performance of milk processing firms in Kenya. The first criterion for mediation was therefore achieved.

Table 6 (b): Cost Leadership Strategy Predicting Competitive Advantage

	β	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.693	0.292		5.799	0.000	1.116	2.27
CLS	0.65	0.072	0.597	8.984	0.000	0.507	0.792
R	R Square		Adjusted R Square		Std. Error of the Estimate		
.597a	0.356		0.352		0.38169		
	Sum of Squares	Df		Mean Square	F	Sig.	
Regression	11.759	1		11.759	80.717	.000 ^b	
Residual	21.270	146		.146			
Total	33.029	147					
a. Dependent Variable: Competitive Advantage							
b. Predictors: (Constant), CLS							

Source: Data processed by authors

The results in Table 6 (b) show adjusted R-square =0.352 indicating that cost leadership strategy accounted for 35.2% of the variation in competitive advantage. The results for ANOVA, F-statistics = 80.717 (p=0.000), confirmed that cost leadership

strategy significantly predicted competitive advantage since the model had a goodness of fit. The results for the regression coefficient show that cost leadership strategy composite had $\beta = 0.65$, p -value = 0.000 meaning that cost leadership strategy significantly predicted the competitive advantage of milk processing firms in Kenya. The second criterion for mediation was therefore achieved.

Finally, the model was fitted to test whether cost leadership strategy predicted firm performance in the presence of competitive advantage.

Table 6 (c): Cost Leadership Strategy and Competitive Advantage Predicting Firm Performance

	β	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	0.564	0.298		1.892	0.061	-0.025	1.153
CLS	0.318	0.083	0.278	3.834	0.000	0.154	0.482
Competitive Advantage	0.536	0.076	0.511	7.04	0.000	0.386	0.687

R	R Square	Adjusted R Square	Std. Error of the Estimate
.713a	0.508	0.501	0.3513

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	18.489	2	9.245	74.908	.000 ^b
Residual	17.895	145	.123		
Total	36.384	147			

a. Dependent Variable: Firm Performance
 b. Predictors: (Constant), Competitive Advantage, CLS

Source: Data processed by authors

From Table 6 (c), the results show that cost leadership strategy and competitive advantage accounted for 50.1% (Adjusted R-square = 0.501) of the variation in firm performance. The results for ANOVA (F-statistics=74.908 ($p=0.000$)) confirmed that cost leadership strategy and competitive advantage significantly predicted firm performance since the model had a goodness of fit. The results for regression coefficient showed that cost leadership strategy ($\beta=0.318$, p -value = 0.000) and competitive advantage ($\beta=0.536$, p -value=0.000) significantly predicted firm performance.

Table 6 (d): Summary of Mediation Test

Model	Step	Result	Conclusion
$P = 1.472 + 0.666CLS + \epsilon$	1	$P < 0.05$	Significant
$P = 1.693 + 0.65CLS + \epsilon$	2	$p < 0.05$	Significant
$P = 0.564 + 0.318CLS + 0.536CA + \epsilon$	3	$p < 0.05$	Significant

Source: Data processed by authors

Since both cost leadership strategy and competitive advantage were significant, partial mediation was achieved. The study thus rejected H_{04} . The findings are supported by the argument that it is not the strategies that a firm adopts that directly lead to superior performance but rather the resultant competitive advantage from such strategies (Salavou & Halikias, 2009). Ismail et al. (2012) posit that competitive advantage may arise by operating at lower costs compared to competitors.

The study results support those of Monsur and Yoshi (2012) who concluded that competitive advantage mediated the relationship between vertical integration and performance of apparel firms in Bangladesh. Talaja et al. (2017) and Wanjiru et al. (2019) similarly concluded that competitive advantage was a significant mediator. In these studies, competitive advantage was found to fully mediate the direct relationships hence the explanatory variables had no direct explanatory effect in the presence of the mediator. Conversely, studies by Sihite (2018) and Mutuku et al. (2019) indicated that competitive was a partial mediator. From a theoretical view, the findings support CBV postulate that to survive and flourish in a competitive environment, firms should create a competitive edge over competitors.

In this regard, Njoroge et al. (2015) argue that for firms to be at an advantage, they should develop appropriate tacit knowledge in relation to cost management approaches. Such knowledge relates to awareness about firm operations and objectives as well as continuous scanning of the environment to take advantage of cost minimization opportunities. There should also be effective avenues to propagate this unique knowledge throughout the firm. Salim et al. (2019) on the other hand called for possession of transformational and output-based capabilities necessary to convert the input into output at low costs. This can be achieved through an efficient combination of resources and having a customer focus.



CONCLUSION

The study sought to establish the relationship between cost leadership strategy and performance of milk processing firms in Kenya as well as the mediating effect of competitive advantage on this relationship. These objectives were realized by examining how three drivers of cost leadership strategy namely economies of scale, economies of scope, and operational efficiency influenced the performance of the processors. All three indicators of cost leadership strategy were found to have a positive and significant relationship with the performance of the milk processors. Overall, the findings showed that a cost leadership strategy had a positive and significant affect on the performance of the firms. From the findings, it can be concluded that milk processors in Kenya improve their performance by cutting costs through increasing their scale of operations, expanding into related business areas, and improving operational processes. In addition, cost leadership strategy approaches were found to have an indirect effect on the performance of milk processors through competitive advantage. It is thus important that firms build competitive advantage in order to enhance the benefits accruing from implementing a cost leadership strategy.

LIMITATION AND STUDY FORWARD

This study considered milk processing firms registered with KDB as of June 2019 only and future studies should include small home-based milk processors as they may have a significant impact on the industry. In addition, the study used perceptual scales to collect financial performance data of the milk processing firms using self-administered questionnaires. Further studies should be done in the same area using secondary data from the firms' financial statements to collaborate with the responses given. The study found that the cost leadership strategy accounted for 40.1% of the variation in the performance of milk processing firms in Kenya. Therefore, further studies should focus on other factors besides the cost leadership approaches studied that explain the remaining variation in the performance of milk processing firms in Kenya. Lastly, this study was cross-sectional and further studies should consider longitudinal aspects to compare the findings.

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AUTHORS CONTRIBUTION

Paul Kimiti developed the study, wrote the first draft, and conducted a statistical analysis of the data. Stephen Muathe and Elishiba Murigi read the draft, corrected design errors, and contributed to the discussion section. All the authors read and approved the final draft.

REFERENCES

1. Armstrong, M. & Baron, A. (2004). *Strategic HRM: The key to improved business performance*. CIPD. London.
2. Atikiya, R., Mukulu, E., Kihoro, J., & Waiganjo, E. (2015). Effect of cost leadership strategy on the performance of manufacturing firms in Kenya. *Journal of Management*, 2(8), 134-143.
3. Azad, A. M. S., Raza, A., & Zaidi, S. S. Z. (2018). Empirical relationship between operational efficiency and profitability (Evidence from Pakistan Exploration Sector). *Journal of Accounting, Business and Finance Research*, 2(1), 7-11. <https://doi.org/10.20448/2002.21.7.11>
4. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
5. Barney, J. B. (2001). Is the resource-based "view" a useful perspective for strategic management research? Yes. *Academy of Management Review*, 26(1), 41-56. <https://doi.org/10.2307/259393>
6. Barney, J. B., & Hesterly, W. S. (2009). *Strategic management and competitive advantage*. Pearson Education. Upper Saddle River, NJ.
7. Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
8. Bebe, B. O., Rademaker, C. J., Lee, J., Kilelu, C. W., & Tonui, C. (2017). *Sustainable growth of the Kenyan dairy sector*. Wageningen University and Research. Wageningen.
9. Birjandi, H., Jahromi, N. M., Darasi, S. M., & Birjandi, M. (2014). The effect of cost leadership strategy on ROA and future performance of accepted companies in Tehran Stock Exchange. *Research Journal of Finance and Accounting*, 5(70), 152-158.
10. Booyse, N. J. (2018). *Development of a school-based performance management framework for self-managing schools in South Africa*. [Doctoral thesis, University of South Africa].



11. Chege, P. M., & Oloko, M. (2017). Influence of generic strategies on performance of large dairy firms in Kenya. *European Journal of Business and Management*, 9(30).
12. Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
13. Echwa, M. & Murigi, E.M. (2019). Strategic leadership and performance of domestic airline firms in Kenya. *Eastern Africa Journal of Contemporary Research*, 1(2), 144-152.
14. Elif, G. E. N. Ç., & Şengül, R. (2015). A review on the relationship between strategic management and performance: The role of internal and external contexts. *Strategic Public Management Journal*, 1(2), 56-71. <https://doi.org/10.25069/spmj.290425>
15. Espirah, J. O., & Murigi, E. M. (2019). Effect of Strategy Execution on Performance of Parliamentary Service Commission of Kenya. *Journal of Public Policy & Governance*, 3(2), 61-72.
16. Field, A. (2009). *Discovering Statistics using SPSS*. Sage. London, UK.
17. Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage. London, UK.
18. Garson, G. D. (2012). *Testing statistical assumptions*. Statistical Associates Publishing. North Carolina.
19. Gorondutse, A. H., & Gawuna, M. S. (2017). Cost leadership strategy and performance of hotels in Nigerian context. *Journal of Applied Structural Equation Modeling*, 1(1), 1-12. [https://doi.org/10.47263/JASEM.1\(1\)02](https://doi.org/10.47263/JASEM.1(1)02)
20. Government of Kenya (2020). *Enhanced national response to the Coronavirus (COVID-19) pandemic: Classification of critical and essential services*. Public Order Number 1 on the Coronavirus pandemic.
21. Growitsch, C., & Wetzel, H. (2009). Testing for economies of scope in European railways: An efficiency analysis. *Journal of Transport Economics and Policy (JTEP)*, 43(1), 1-24.
22. Hansen, E., Nybakk, E., & Panwar, R. (2015). Pure versus hybrid competitive strategies in the forest sector: Performance implications. *Forest Policy and Economics*, 54, 51-57. <https://doi.org/10.1016/j.forpol.2015.02.001>
23. Harreld, J. B., O'Reilly III, C. A., & Tushman, M. L. (2007). Dynamic capabilities at IBM: Driving strategy into action. *California Management Review*, 49(4), 21-43. <https://doi.org/10.2307/41166404>
24. Hartarska, V., Parmeter, C. F., & Nadolnyak, D. (2011). Economies of scope of lending and mobilizing deposits in microfinance institutions: A semi-parametric analysis. *American Journal of Agricultural Economics*, 93(2), 389-398. <https://doi.org/10.1093/ajae/aaq108>
25. Hilman, H., & Kaliappen, N. (2014). Do cost leadership strategy and process innovation influence the performance of Malaysia hotel industry? *Asian Social Science*, 10(10), 134. <https://doi.org/10.5539/ass.v10n10p134>
26. Ismail, A. I., Rose, R. C., Uli, J., & Abdullah, H. (2012). The relationship between organizational resources, capabilities, systems and competitive advantage. *Asian Academy of Management Journal*, 17(1), 151-173.
27. Kaplan, R. S. (2009). Conceptual foundations of the balanced scorecard. *Handbooks of Management Accounting Research*, 3(1)1253-1269. [https://doi.org/10.1016/S1751-3243\(07\)03003-9](https://doi.org/10.1016/S1751-3243(07)03003-9)
28. Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard-measures that drive performance. *Harvard Business Review*, 70(1), 71-79.
29. Kasman, A. (2012). Cost efficiency, scale economies, and technological progress in Turkish banking. *Central Bank Review*, 2(1), 1-20.
30. Kenya Dairy Board (2019). Kenya Dairy Board report. <https://www.kdb.go.ke/dairy-data/>
31. Kiiru, D. M. (2015). *Strategic human resource management practices and performance of parastatals in Kenya*[Doctoral dissertation, Kenyatta University].
32. Kimiti, P. G., & Kilika, J. M. (2018). Organizational resources, industry velocity, attention focus and firm's performance: A review of literature. *International Journal of Business and Management*, 13(5), 185. <https://doi.org/10.5539/ijbm.v13n5p185>
33. Krylov, S. (2019). Strategic customer analysis based on balanced scorecard. *Ekonomicko-manazerskespektrum*, 13(1), 12-25. <https://doi.org/10.26552/ems.2019.1.12-25>
34. Kyengo, J. M., Muathe, S. M. A., & Kinyua, G. M. (2019). Marketing capability and firm performance: An empirical analysis of food processing firms in Nairobi City County, Kenya. *The Strategic Journal of Business & Change Management*, 6(1), 544-555. <https://doi.org/10.14445/23939125/IJEMS-V6I5P117>
35. Lechner, C., & Gudmundsson, S. V. (2014). Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal*, 32(1), 36-60. <https://doi.org/10.1177/0266242612455034>
36. Majeed, S. (2011). The impact of competitive advantage on organizational performance. *European Journal of Business and Management*, 3(4), 191-196.
37. Martello, M., Watson, J. G., & Fischer, M. J. (2016). Implementing a balanced scorecard in a not-for-profit organization. *Journal of Business and Economics Research*, 14(3), 61-98. <https://doi.org/10.19030/jber.v14i3.9746>



38. Matejova, L., Placek, M., Krapek, M., Pucek, M., & Ochrana, F. (2014). Economies of scale—empirical evidence from the Czech Republic. *Procedia Economics and Finance*, 12(1) 403-411. [https://doi.org/10.1016/S2212-5671\(14\)00361-X](https://doi.org/10.1016/S2212-5671(14)00361-X)
39. Ministry of Agriculture, Livestock and Fisheries. (2013). *Towards a Competitive and Sustainable Dairy Industry for Economic Growth in the 21st Century and Beyond*. Sessional Paper No. 5 of 2013 on the National Dairy Development Policy.
40. Monsur, S. M. T., & Yoshi, T. (2012). Improvement of firm performance by achieving competitive advantages through vertical integration in the apparel industry of Bangladesh. *Asian Economic and Financial Review*, 2(6), 687.
41. Mosheim, R., & Lovell, C. K. (2009). Scale economies and inefficiency of US dairy farms. *American Journal of Agricultural Economics*, 91(3), 777-794. <https://doi.org/10.1111/j.1467-8276.2009.01269.x>
42. Muathe, S. M. A. (2010). *The Determinants of Adoption of Information and Communication Technology by Small and Medium Enterprises within the Health Sector in Nairobi, Kenya*. Unpublished PhD Thesis, Kenyatta University.
43. Muathe, S. M. A. (2002). *The Application of Information Technology in Enhancing Customer Satisfaction, a Survey of Soft Drink Companies in Nairobi*. Unpublished MBA Project, United States International University-Africa.
44. Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods*. Laba Graphics Services Ltd. Nairobi.
45. Mutuku, M. K., Muathe, S., & James, R. (2019). Mediating effect of competitive advantage on the relationship between e-commerce capability and performance: Empirical evidence from commercial banks in Kenya. *European Journal of Business and Management*, 11(17), 48-57. <https://doi.org/10.7176/EJBM/11-17-06>
46. Mwangi, E. W., & Gakobo, J. (2018). Growth strategies and performance of selected milk processing companies in Kenya. *International Journal of Contemporary Aspects in Strategic Management*, 2(1), 158- 172.
47. Niven, P. R. (2011). *Balanced scorecard: Step-by-step for government and nonprofit agencies*. John Wiley & Sons. <https://doi.org/10.1002/9781119197287>
48. Njoroge, J. G. (2015). *Organizational resources and performance of mobile phone companies in Kenya* [Doctoral thesis, Kenyatta University].
49. Njoroge, J. K., Ongeti, W. J., Kinuu, D., & Kasomi, F. M. (2016). Does external environment influence organizational performance? The case of Kenyan State Corporations. *Management and Organizational Studies*, 3(3), 41-51. <https://doi.org/10.5430/mos.v3n3p41>
50. Nyauncho, N. M., & Nyamweya, N. I. (2015). Assessment of the effect of cost leadership strategy on the performance of Liquefied Petroleum Gas Companies in Eldoret town, Uasin Gishu County, Kenya. *International Journal of Business and Management Invention*, 4(4), 1-7.
51. Ormanidhi, O., & Stringa, O. (2008). Porter's model of generic competitive strategies. *Business Economics*, 43(3), 55-64.
52. Penrose, E. T. (1959). *The theory of the growth of the firm*. John Wiley & Sons. New York.
53. Razali, N. M., & Wah, Y. B. (2011). Power comparison of Shapiro-Wilk, Kolmogorov-Smirnoff, Lilliefors and Anderson-Darling Tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21-33.
54. Richter, N. F. (2014). Information costs in international business: Analyzing the effects of economies of scale, cultural diversity and decentralization. *Management International Review*, 54(2), 171-193. <https://doi.org/10.1007/s11575-013-0187-y>
55. Sainaghi, R., Phillips, P., & d'Angella, F. (2019). The balanced scorecard of a new destination product: Implications for lodging and skiing firms. *International Journal of Hospitality Management*, 76, 216-230. <https://doi.org/10.1016/j.ijhm.2018.05.011>
56. Salavou, H. E., & Halikias, J. (2009). Strategy types of exporting firms: A view on the basis of competitive advantage. *European Business Review*, 21(2), 144-158. <https://doi.org/10.1108/09555340910940141>
57. Salim, N., Ab Rahman, M. N., & AbdWahab, D. (2019). A systematic literature review of internal capabilities for enhancing eco-innovation performance of manufacturing firms. *Journal of Cleaner Production*, 209, 1445-1460. <https://doi.org/10.1016/j.jclepro.2018.11.105>
58. Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business*. Pearson Education. London.
59. Shah, S., Tahir, S. H., Anwar, J., & Ahmad, M. (2016). Does size matter in determining firms' performance? A comparative analysis of listed companies. *City University Research Journal*, 6(2), 344-353.
60. Sihite, M. (2018). Competitive advantage: Mediator of diversification and performance. In *IOP Conference Series: Materials Science and Engineering*, 288(1), 12-102. <https://doi.org/10.1088/1757-899X/288/1/012102>
61. Spanos, Y. E., Zaralis, G., & Lioukas, S. (2004). Strategy and industry effects on profitability: Evidence from Greece. *Strategic Management Journal*, 25(2), 139-165. <https://doi.org/10.1002/smj.369>



62. Sporta, F. O., Ngugi, P. K., Ngumi, P. M., & Nanjala, C. S. (2017). The effect of operational efficiency as a financial distress factor on financial performance on commercial banks in Kenya. *The International Journal of Business and Management*, 5(7) 102-112.
63. Stalk, G., Evans, P., & Shulman, L. E. (1992). Competing on capabilities: The new rules of corporate strategy. *Harvard Business Review*, 70(2), 57-69.
64. Sundin, H., Granlund, M., & Brown, D. A. (2010). Balancing multiple competing objectives with a balanced scorecard. *European Accounting Review*, 19(2), 203-246. <https://doi.org/10.1080/09638180903118736>
65. Talaja, A., Miocevic, D., Pavicic, J., & Alfirevic, N. (2017). Market orientation, competitive advantage and business performance: Exploring the indirect effects. *Društvena istraživanja*, 26(4), 583-604. <https://doi.org/10.5559/di.26.4.07>
66. Teece, D.T., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
67. Theodosiou, M., Kehagias, J., & Katsikea, E. (2012). Strategic orientations, marketing capabilities and firm performance: An empirical investigation in the context of frontline managers in service organizations. *Industrial Marketing Management*, 41(7), 1058-1070. <https://doi.org/10.1016/j.indmarman.2012.01.001>
68. Vahid, M. D., Mirzajani, F. S., Izadi, S., Honarmandyar, M. B., & Negahdary, A. A. (2013). Evaluation of the relationship between competitive advantage and export performance (Case study: Iranian firms exporting biotech products). *European Journal of Experimental Biology*, 3(1), 364-370.
69. Wambugu, S., Kirimi, L., & Opiyo, J. (2011). *Productivity trends and performance of dairy farming in Kenya*. Tegemeo Institute of Agricultural Policy and Development. Egerton University.
70. Wang, Y., & Lo, H. P. (2003). Customer-focused performance and the dynamic model for competence building and leveraging: A resource-based view. *Journal of Management Development*, 22(6), 483-526. <https://doi.org/10.1108/02621710310478486>
71. Wanjiru, A. I., Muathe, S. M., & Kinyua-Njuguna, J. W. (2019). The mediating effect of competitive advantage on the relationship between corporate strategies and performance of manufacturing firms in Nairobi City County, Kenya. *Journal of Business and Management (IOSR-JBM)*, 21(4), 7-15. <https://doi.org/10.5430/jms.v10n4p21>
72. Zahavi, T., & Lavie, D. (2013). Intra-industry diversification and firm performance. *Strategic Management Journal*, 34(8), 978-998. <https://doi.org/10.1002/smj.2057>