Supply Chain Management and Organisational Performance: Mediation Effect of Competitive Advantage

Charles M. Wainaina1, Erick K. Bett[2], Benard K. Njehia[3]

[1,2,3]*Agricultural Economics, Kenyatta University*
PO Box 22604-00100 Nairobi Kenya

[1]wainainacmus@yahoo.com

Abstract—Supply chain management (SCM) practices have become strategic resources and capabilities for enhancing both competitive advantage organisational performance (ORGPER). However, it is not clear how SCM Practices influence organisational performance in the agribusiness context. However, the mechanism of SCMPs effects is not yet understood since extant literature has produced mixed results. Therefore, this study sought to examine the mediation effects of competitive advantage in the relationship between SCMPs and ORGPER from the dairy supply chain perspective in Kenya. The study postulated four hypotheses that were tested using Partial least squares structural equation modelling (PLS-SEM) techniques to address the study objectives. A cross-sectional survey design was utilised to gather primary data from 109 dairy co-operatives in the thirteen major milk-producing counties in Kenya. The result revealed that SCM practices have a positive and significant influence on CA (β=0.730), and ORGPER (β=0.237). Additionally, CA has a positive, statistically significant influence on ORGPER (β=0.522). Further results show that CA mediates the relationship between SCMPs and ORGPER. Consequently, the study concludes that SCMPs first generates CA, which in turn enhances ORGPER in an organisation. Theoretically, the study provides insights on the resource-based view theory as well as a conceptual framework for its validation. Similarly, the study informs managers and policymakers in knowing specific SCMPs to focus on to enhance CA and ORGPER of the dairy co-operatives in Kenya.

Keywords: *Competitive advantage, Organisational performance, Supply chain management, and PLS-SEM*

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1. INTRODUCTION

Agricultural supply chains (ASC) play a critical role in providing access to markets (local, regional and international) for the farming communities. However, changes in the current marketplace limit the ability of agricultural enterprises to compete.

Currently, markets have become highly globalised, coupled with rapidly increasing demand for high quality, value-added and customised agrifood products [49]. Thus, small and large agribusiness firms alike have to innovate to achieve cost efficiencies while still attempting to be flexible and responsive to the dynamic customer demand in the marketplaces [44].

Modern management thinking is advocating for coordination, integration and management of key business processes across members of supply chains as a new way of surviving global competition and achieving sustainable performance [50]. Against this backdrop, supply chain management SCM has become part of business management approach that provides a framework for integrating an elaborate network of business relationships from material suppliers to ultimate customers [15]. SCM entails managing the relationships among firms responsible for the efficient production and supply of agribusiness products from farm level to consumers, to reliably meet consumers' requirements in terms of quantity, quality and price [28].

Effective SCM has become a valuable source of CA and improving ORGPER since competition is no longer between organisations, but among supply chains [11]. In the long run, the application of SCMPs leads to an increase in market share and profits for all members of the supply chain [33]. Despite the continually growing focus given to the research on SCM, mechanism of the effects of SCMPs on ORGPER is not yet clear. According to [38], the nature of the linkage between SCMPs and ORGPER can be direct or indirect, sequential or non-sequential, intra-dependent or reverse. However, a majority of past studies often do not consider mediation effects in their hypotheses, making the contributions of the studies linking SCMPs and performance incomplete [9]. Consequently, this narrow focus leads to bias interpretation of the results for a variable that may not have a direct effect but instead have its effect through another variable [37].

The current study strives to feel this knowledge gap by exploring the mediation effect in the relationship between SCMPs and organisational performance using the dairy supply chain in Kenya. The results will provide not only additional insights into the effectiveness of SCM practices from a research standpoint but also offer contextual implications to practising managers who are more interested in knowing specific SCM practices responsible for improving performance in the dairy industry.

2. LITERATURE REVIEW

2.1 Supply Chain Management Practices (SCMPs)

SCM practices are viewed from a variety of different perspectives and multi-dimensional concept [45]. As a result, literature is replete with dimensions of SCMPs from a variety of perspectives but lacks consensus on relevant constructs [48]. [3] used strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing, and postponement as dimensions of SCMPS [3]. Another study by [43] used Collaboration, demand and supply planning, inventory production and distribution management and logistics as dimensions of SCMPs.

Additionally, [8] conceptualised four dimensions of SCM practice, namely Green Supply Chain, Customer Relationship Management, Supplier Relationship Management, Outsourcing Practices and Lean Supply Chain. Furthermore, [35] conceptualised Supply chain collaboration Practice, Green Supply chain management Practice, Information Sharing Practice, Customer relationship management Practice. In the same breath, [4] used Supplier selection practices, Supply chain policies, Supplier Collaboration Practices, Risk management practices. Moreover, [10] used supplier relationship management practices, process management practices, customer relationships management practices and IT support practices. The existing SCMPs are generic, necessitating the need for more specific practice to the dairy supply chain management. Therefore, [31], identified the following practices relevant to the dairy supply chain; Information and Communication Technology Practices, Supplier Relationship Practices, Supply Chain Manufacturing Practices, Inventory management system, Warehousing Management System, Transportation Management System, Customer Relationship Management. Thus, the current study proposes Customer relationship management (CRM), information and communication technology (ICT), Logistics Management (LM), Procurement Management (PM) and Supplier Development (SD). The five SCMPs cuts across both sides of the supply chain and internal practices for the focal company.

2.2 Organisational Performance

ORGPER refers to how well an organisation achieves both market-oriented and financial goals [54]. According to [5], high performing firms can generate a variety of benefits for both the company and society at large such as attracting resources, creating wealth and generating jobs. As a result, literature has identified various measures of organisational performance such as operational, financial and market performance. Scholars, such as [13] used parameters like Demand Management, Customer Satisfaction, and Stakeholder Satisfaction as measures of ORGPER. Other measures of ORGPER include responsiveness, flexibility and Quality (Kumar & Mohan, 2014). Another study by [19] conceptualised organisational performance in terms of operational customer satisfaction and financial parameters. In summary, ORGPER can be categorised as financial or non-financial metrics. In light of this existing literature, the current study proposes operational, market, and customer satisfaction as measures of ORGPER.

2.3 Competitive advantage

CA refers to the level at which an organisation can create a secure position over its competitors. It consists of competencies that allow an organisation to differentiate itself from its competitors and is an outcome of critical management decisions [7]. Previous studies indicate that various dimensions SCMPs influence supply chain competitive advantage through "price, quality, delivery, product innovation, and time to market"[14]. For instance,[3], confirmed that SCM practices influence CA through price, quality, delivery, product innovation, and time to market. [14], considered pricing, premium pricing, value-to-customer quality, dependable delivery, and product innovation as the dimensions of competitive advantage.

Thus, the present study included quality, delivery dependability, and flexibility as measures of competitive advantage.

2.4 Development of Hypotheses

SCMPs not only improve financial metrics but also enhance market performance and customer satisfaction. Efficient SCMPs has the potential to reduce inventory level, free up warehouse space, untighten cash flow and improved customer relationships. Additionally, SCMPs could increase flexibility through better control of supplies that would, in turn, increase capacity utilisation [14]. Based on the above, this study postulates that:

H1: SCM practices have significant effects on organisational performance.

H2: SCM practices have significant effects on competitive advantage.

SCMPs can enable a company to differentiate itself from its competitors in terms of cost/price, quality, delivery dependability, and time to market. Additionally, an efficient SC in the market leads to efficient utilisation of resources, which would lead to lower product cost, better product quality, faster response, and eventually providing a competitive advantage. These capabilities are inherent in competitive advantage and can improve not only overall company performance but also overall supply chain performance [3]. For example, SCMPs help to reduce delivery lead-time and increase responsiveness, thus generating a competitive advantage to the firm. Therefore, this study hypothesises that:

H3: CA has a significant effect on organisational performance.

H4: Competitive advantage mediates the relationship between SCMPs and organisational performance.

2.5 Conceptual framework

The conceptual framework developed in this study proposes that SCMPs have a direct and indirect impact on the organisational performance of dairy co-operatives in Kenya. Therefore, SCMPs are expected to generate a competitive advantage to a firm first, which, will, in turn, lead to improved organisational performance. As noted earlier, various SCM practices have an impact on several aspects of operational performance**. Figure 1** below represents the proposed conceptual for this study.

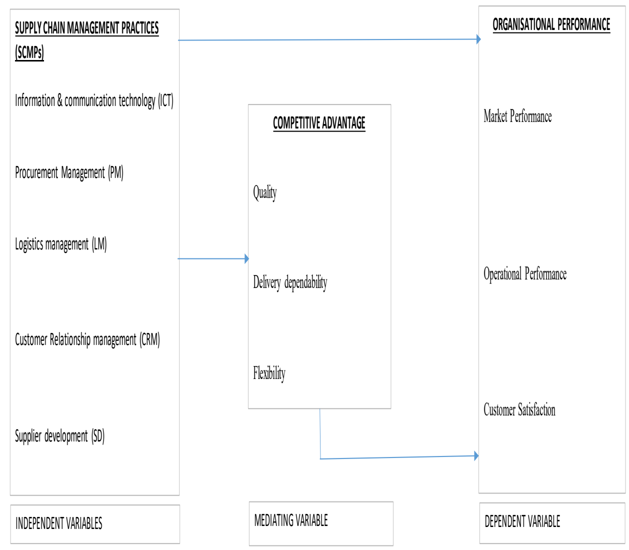

Figure 1: Conceptual framework

3. METHODS

3.1 Measures of Variables

Multiple item scale was developed to measure the dimensions of SCMPs, namely Information and communication technology, Supplier Development, Procurement, Logistic, and customer relationship management. Additionally, multiple item scale was adopted from past studies to measure the dimensions of the CA construct (quality, delivery dependability, and flexibility). Further, multiple item scale was adopted from past studies to measure the dimensions of organisational performance (Market, Operational and Customer satisfaction). The scale items for SCM practices were measured on 7 points Likert scale ranging from 1 for never to 7 for every time. Similarly, a seven Likert scale ranging from 1= strongly disagree to 7 = strongly agree was adopted to measure organisational performance in terms of market performance, operational performance and customer satisfaction.

3.2 Data

The study population comprised of dairy co-operatives operating in the thirteen major milk-producing counties in Kenya. A sample of 109 dairy co-operatives was purposively selected from a population of 150, where the unit manager represented each of them as the survey respondent. A cross-sectional survey design was used to collect primary data using crossed ended questionnaires. After the field survey, a total of 100 questionnaires were returned, representing approximately 92% response rate. However, only 89 out of the 100 questionnaires returned were complete and valid for analysis.

3.3 Data Analysis

The current study applies structural equation modelling (SEM) methods to conduct empirical analysis. SEM is a multivariate analytical tool that has become common in analysing complex inter-relationships between observed and latent variables [27]. There are two different types of SEM, namely, factor/covariance-based CB-SEM and component/variance-based VB-SEM. However, while both methods incorporate multiple independent and dependent variables together with latent theoretical constructs represented by clusters of observed variables: they differ conceptually in the treatment of construct measures and model estimation methodology [24]. Whereas CB-SEM minimises the difference between an observed covariance matrix and an implied covariance matrix, VB-SEM maximises the amount of explained variance of the dependent endogenous construct [26].

According to [12], VB-SEM involves many different techniques, such as regression on sum scores or principal components, generalised structured component analysis (GSCA) and partial least squares path modelling (PLS). PLS-SEM path modelling is appropriate for estimating causal models in many theoretical models and empirical data situations, hence regarded as a "silver bullet." [21]. One of the advantages of PLS-SEM over other VB-SEM techniques is its ability to specify complex inter-relationships between observed and latent variables [41]. Secondly, PLS-SEM is a causal predictive approach to SEM that emphasises prediction in estimating statistical models, while providing causal explanations [22]. The interplay between explanation and prediction theory provides an understanding of the underlying causes and prediction, as well as a description of the theoretical constructs and the relationships among them [42].

Based on the above, the current study settled on PLS-SEM technique as the most appropriate statistical method for analysing the set objectives. There has been a proliferation in the application of PLS-SEM in a variety of academic disciplines such as international business marketing, human resource management, accounting management, strategic management, tourism, hospitality and agricultural science have applied PLS-SEM [40]. For instance, [46], applied PLS-SEM to investigate the impact of various dimensions of SCMPs on the performance of the supply chain in the electronics industry in Malaysia.

3.4 PLS-SEM

The study adopted a two-step approach suggested by [21], assessing the measurement model first, followed by the evaluation of the structural model using SmartPLS 3.2.9 software. SmartPLS is a user-friendly software that generally requires little technical knowledge about the method.

4. RESULTS

4.1 Model

There are two ways to operationalise the outer model; reflective or formative. Indicators or manifest variable measured are assumed to be influenced, affected, or caused by the underlying latent variable in a reflective measurement model [18]. In contrast, the indicators of a formative latent construct are the cause rather than being caused by the underlying latent construct [20]. Using the SmartPLS confirmatory tetrad analysis (CTA) algorithm, the current study confirmed that SCMPs, CA and ORGPER are reflective measurement models, as shown in **figure 3**. Previous studies also found similar results; therefore, this study concludes that SCMPs CA and ORGPER are reflective models.

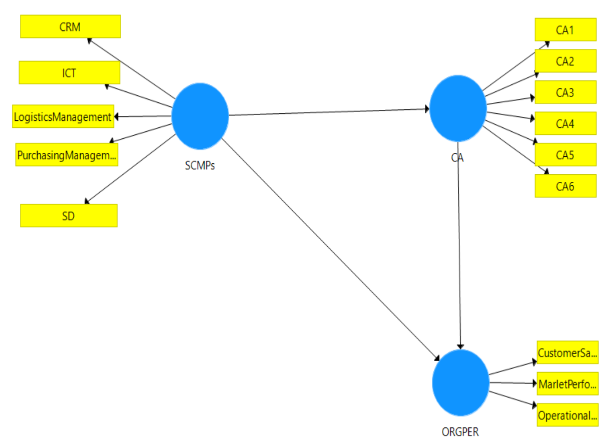

Figure 2: Measurement Model

4.2 Evaluation of Measurement Model

According to [29], assessing a reflective measurement model requires establishing indicator reliability, internal consistency reliability, construct validity, convergent and discriminant validity. The assessment of reflective measurement models involved evaluating the measures' reliability (i.e., indicator reliability and internal consistency reliability), and the validity (i.e., convergent and discriminant validity) [2].

4.2.1 *Indicator Reliability*

Indicator reliability was assessed by observing the indicator loadings and their significance. According to Joe F. Hair et al., (2020), the standardised loadings should have a value higher than 0.708 and an associated t-statistic above ±1.96 to be significant for a two-tailed test [20]. Additionally, biased-corrected and accelerated (BCa) confidence intervals were observed to ascertain that indicator loadings did not include zero to be statistically significant. Therefore, a bootstrapping procedure with 5,000 subsamples and a two-tail test at the 5% significance level was executed. **Table 1** shows that all the standardised indicator loadings for the three constructs are above the minimum limit of 0.708 except CRM (0.663) meaning that the latent variables captured more than 50% of each of its indicators [29]. Furthermore, t statistics of all the indicators loadings for the three constructs are ≥ 1.96, and their confidence interval values do not include zero, thus exhibiting a satisfactory degree of indicator reliability.

Table 1: Test of Significance for the Outer loading

Indicator	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics (|O/STDEV|)	Confidence Interval	
					2.5%	97.5%
CA1	0.780	0.779	0.058	13.444	0.630	0.866
CA2	0.739	0.738	0.062	11.945	0.588	0.833
CA3	0.859	0.857	0.028	30.194	0.795	0.905
CA4	0.763	0.764	0.056	13.673	0.625	0.850
CA5	0.802	0.800	0.069	11.591	0.623	0.898
CA6	0.820	0.821	0.037	22.415	0.726	0.878
MAKTP	0.867	0.864	0.040	21.690	0.758	0.919
OPERP	0.739	0.727	0.084	8.799	0.523	0.847
CUSAT	0.835	0.838	0.039	21.412	0.727	0.895
CRM	0.663	0.659	0.068	9.691	0.500	0.770
ICT	0.754	0.750	0.066	11.374	0.583	0.850
LOGM	0.853	0.856	0.027	31.958	0.784	0.894
PURM	0.717	0.716	0.060	11.962	0.576	0.811
SD	0.744	0.736	0.067	11.062	0.588	0.846

Notes 1: *t ≥ 1.96 at 5% confidence interval in a two-tail test Original Sample (O) = Standardised indicator loadings

4.2.2 *Construct Reliability and Validity*

The current study used three metrics to assess the reliability of both SCMPs and ORGPER Cronbach's alpha (α), Jöreskog's composite reliability ρc and Gold- steins Dillion composite reliability ρA. According to Rasoolimanesh & Ali (2018), the value of Cronbach's alpha, composite reliability (CR), and rhoA should be higher than 0.7 to establish the construct reliability [40]. However, reliability score ≥ 0.95 implies that the individual items measure the same concept, and are therefore redundant [23]. Further, convergent validity was assessed by the use of the Average Variance Extracted (AVE) metric. Accordingly, AVE value of 0.5 is cited as the minimum criterion to establish the convergent validity of a construct [16].

The values of Cronbach's alpha, composite reliability (CR), and RhoA, (see **Table 2)** are above the minimum threshold of 0.7, demonstrating adequate internal consistency for the three latent constructs. Additionally, AVE values of SCMPs, CA and ORGPER range from 0.561 to 0.665, indicating that the three latent variables meet construct validity criteria since they capture over 50% of the variance of their indicators.

Table 2: Construct Reliability and Validity

LATENT VARIABLE	Cronbach's Alpha	Composite Reliability Rho_A	Composite reliability (ρc)	Average Variance Extracted (AVE)
CA	**0.883**	**0.884**	**0.911**	**0.632**
ORGPER	**0.751**	**0.777**	**0.856**	**0.665**
SCMPs	**0.804**	**0.830**	**0.864**	**0.561**

Notes 2: AVE=Average variance extracted, ρ_{rho}= Dillon-Goldstein, ρc= Jöreskog's Composite reliability. All metrics should be ≥ 0.7

4.2.3 Discriminant validity

The traditional approach for assessing discriminant validity relies on examining (i) the Fornell-Larcker criterion, and (ii) cross-loadings [53]. However, Henseler, Ringle, & Sarstedt (2015), claims that the two approaches cannot reliably discern the absence of discriminant validity in most research scenarios and instead, proposed Heterotrait-monotrait (HTMT) ratio of correlations as an alternative [25]. Thus, the current study utilised HTMT metric and confidence intervals to assess if the upper bound of the 95% confidence interval of HTMT is lower than 0.9 [17].

Table 3 show HTMT values ranging from 0.763 to 0.847, which are below the more conservative threshold of 0.85. Further, analysis shows that $\mathbf{CI_{97.5\%}}$ values from the bias-corrected and accelerated (BCa) bootstrapping procedure included the more conservative threshold value of 0.85, indicating that the latent variables meet the discriminant test criteria and besides being empirically distinct from one another.

Table 3: HTMT Results

	HTMT	2.5%	97.5%
ORGANISATIONAL PERFORMANCE -> COMPETITVE ADVANTAGE	**0.834**	0.702	0.940
SCM PRACTICES -> COMPETITVE ADVANTAGE	**0.847**	0.676	0.986
SCM PRACTICES -> ORGANISATIONAL PERFORMANCE	**0.763**	0.582	0.903

4.3 Evaluation of Structural Model

The first step in structural model assessment is to test for collinearity. The current study used the variance inflation factor (VIF) with a cut off of 3 and below as the decision criteria [22]. The VIF values for both the Outer and inner models are below the set threshold of 3, indicating an absence of collinearity problem among the latent variables. The preceding steps in the structural model assessment follow the procedure outlined by [29]. Specifically, this process entails evaluation of the model predictive or explanatory power by a coefficient of determination R2, effect size $f2$, and predictive relevance (Q2), as well as estimation of path coefficients (β).

4.3.1 Model Explanatory Power

The model explanatory power of the model was examined by considering the coefficient of determination $_{\text{Adjusted}}R^2$ to determine the variance explained for the dependent variables in the study. In general, **Adjusted R^2** values range from 0 to 1, with higher values indicating a greater explanatory power. According to Joseph F Hair et al., (2017), R^2 values of 0.75, 0.50, 0.25, and below are considered substantial, moderate, and weak, respectively [29]. Additionally, Cohen's effect size (f^2) the effect size of the impact of the SCMPs on each of the three dimensions of ORGPER construct was assessed using Cohen's effect size (f^2). According to Joseph F Hair et al., (2018) f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, or substantial effect on an endogenous construct, respectively [22]. Further, the predictive relevance of the model was assessed using the Stone-Geisser Indicator **(Q^2)**. Thus, a blindfolding algorithm with an omission distance of seven (D=7) was executed to obtain Q^2 values. In general, Q^2 values higher than 0, 0.25, and 0.5 depict small, medium, and substantial predictive relevance of the PLS model (Hair et al., 2018).

Table 4: Model quality Criteria

MODEL	R Square	R Square Adjusted	Effect size (f2)	Q² (=1-SSE/SSO)
SCMPs > CA	0.533	0.528	1.142	0.325
SCMP> ORGPER	0.509	0.498	0.053	0.310
CA>ORGPER			0.259	

Notes 3: R^2 values 0.75= substantial, 0.50= moderate and ≤ 0.25= weak, Q^2 ≥ 0= small, Q^2 ≥0.25=Medium and Q^2 ≥0.5 substantial predictive relevance, : f^2 ≥0.02=small, ≥0.15=medium, and ≥0.35= substantial effect

The results show **Adjusted R^2 = 0.528 and 0.498** indicating moderate explanatory power of the model. In other words, SCMPs explains 52.8%, of the variance of competitive advantage. Additionally, both SCMPs and CA explains 49.8%, of the variance of target variable ORGPER. These results indicate that SCMPs has a substantial effect on CA and a small effect on ORGPER while CA has a medium effect on ORGPER. Furthermore, results from blindfolding show **SCMPs>CA (Q^2) = 0.325, SCMPs>ORGPER (Q^2)**

= **0.310**, signifying medium predictive relevance. See a summary of these results in **Table 4.**

4.3.2 Structural model Path analysis

Path coefficients are standardised beta (β) values ranging from between –1 and +1[29]. According to Joe F. Hair et al., (2020), the closer the path coefficient values are to 0 or 1 indicates how weak or strong the independent variable is in predicting the dependent (endogenous) constructs. SmartPLS algorithm with path weighting scheme and a maximum of 300 iterations was executed to obtain the path coefficients of the structural relationships (see **Figure 3**).

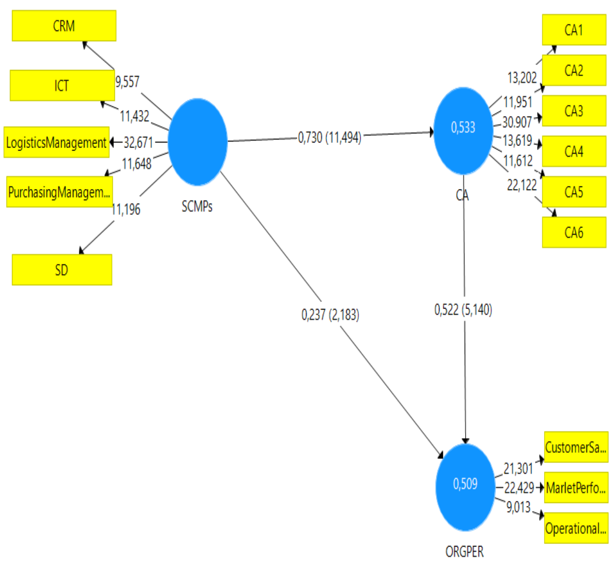

Figure 3: Structural model

The standardised path coefficients (β) (values out of brackets) for the three structural relationships are shown in **Figure 3.** It can be seen that the link between SCMPs and CA has a positive path coefficient **(β= 0.730)** indicating that a unit increase in SCMPs will positively increase CA by 73%. Additionally, the link between SCMPs and ORGPER has a positive path coefficient **(β= 0.237)** indicating that a unit increase in SCMPs will positively increase ORGPER by 23.7%. Further, the link between CA and ORGPER **(β= 0.522**) indicating that a unit increase in CA will positively increase ORGPER by 52.2%.

4.3.3 Hypothesis testing

Recently, studies are recommending the use of t-values and confidence intervals to test the significance of the path coefficients and hypothesis testing [40]. According to [29], confidence interval provides information on the stability of the estimated coefficient by offering a range of plausible population values for the parameter dependent on the variation in the data and the sample size. Thus, the study executed Bias-Corrected and Accelerated (BCa) Bootstrap in SmartPLS algorithm with 5000 subsamples in two-tail test at 5%, significance level. The extraction of bootstrapping results is displayed in **Table 5.**

Results show that path coefficient for the structural relationship SCMPs ->ORGPER **(β= 0.237)** is statistically significant at (P<0.05, t =2.183) and confidence interval for the estimated path coefficient does not include zero. These results confirm **hypothesis 1**, which states that higher levels of SCM practices are associated with higher levels of organisational performance. These results align with previous studies. For instance, a study by Abbey, Bempah, & Owusu (2013) found a direct and significant relationship between SCMPs and organisational performance [1]. Another study by [Babatunde, Gbadeyan, & Bamiduro, (2016)] revealed a positive and significant relationship between SCMP and organisational performance from selected marketers of Petroleum Products in Nigeria [6].

Further, results show that path coefficient for the structural relationship SCMPs -> CA **(β= 0.731)** is statistically significant (P<0.05, t =11.494) and the confidence interval for the estimated path coefficient does not include zero. These results confirm **hypothesis 2,** which states that higher the level of supply chain management practices are associated with higher levels of competitive advantage. A study by Nik et al., (2014), established a direct relationship between SCMPs and competitive advantage of food processing SMEs in Malaysia [14]. Additionally, Wijetunge & Ranwala (2018) revealed a positive relationship between SCM practices and competitiveness on medium scale entrepreneurial firms in Sri Lanka [51].

Moreover, results for the coefficient of the structural relationship CA -> ORGPER **(β= 0.522)** is statistically significant (P<0.05, t =5.140) and the confidence interval for the estimated path coefficient does not include zero. These results confirm **hypothesis 3**, which states that high levels of competitive advantage are associated with high levels of ORGPER. A study by [14], found a positive and statistically significant relationship between CA and ORGPER on cement industry in India.

Table 5: Hypothesis testing

PATH	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Confidence intervals 2.5%	97.5%
CA -> ORGPER	0.522*	0.534	0.102	5.118	0.000	0.282	0.700
SCMPs-> CA	0.730*	0.736	0.062	11.786	0.000	0.586	0.833
SCMPS -> ORGPER	0.237*	0.229	0.110	2.148	0.032	0.021	0.456

Notes 4: * Significance t- statistic≥1.96 and P≤ 0.05 at 5% confidence level two-tail test

4.3.4 Mediation analysis

Further, the study sought to test the mediation effect of competitive advantage to have a better understanding of the role of SCMPs in explaining the variance of ORGPER in the model. To that effect, the procedure outlined by [37] for testing mediation effects in PLS-SEM was followed. The first step involved determining the significance of indirect effects and their magnitude, which was accomplished using the bootstrapping technique. According to Carrión et al. (2017), having a significant indirect effect is the key to determining the type of mediation effect and its magnitude [9]. Subsequently, bootstrap analysis (see ***Table 6***) shows that both the direct **(β= 0.237)** and indirect **(β= 0.381)** effects are statistically significant, which is a clear manifestation of partial mediation. These results confirm hypothesis 3, stating that competitive advantage mediates the relationship between SCM practices and organisational performance. The results agree with previous studies, which revealed that SCMPs first generates a competitive advantage, which in turn leads to enhanced organisational performance. A study by [52] revealed a partial mediation effect between SCM practices and organisational performance. Also, [39] found a partial mediation effect of CA on the relationship between SCM and company performance on public manufacturing industry in Jabodetabek.

Table 6: Significance of Indirect effect

RELATIONSHIP	Total Effect	Direct effect	Indirect effect	T Statistics (|O/STDEV|)	P Values	Hypothesis
SCMPs -> ORGPER	0.618*	0.237*	0.381*	4.545	0.000	Supported
SCMPs -> CA	0.730*	0.730*		11.494	0.000	Supported
CA-> ORGPER	0.522*	0.522*		5.140	0.000	Supported

Notes 5: * Significance at t- statistic≥1.96 and P≤ 0.05 at 5% confidence level two-tail test:

Further, the variance accounted for (VAF) was calculated to assess the magnitude of the mediation effect using the formula below.

$$VAF = \frac{Indirect\ effect}{Total\ effect} \quad (1)$$

$$VAF = \frac{0.730 * 0.522}{0.618} = 0.616$$

The indirect effect equals the product of both the link between SCMPs> CA (0.730) and CA>ORGPER (0.522). On the other hand, the total effect equals the sum of the direct link between SCMPs >ORGPER (0.237) and the indirect effect. According to [29], partial mediation is established when VAF exceeds the 0.2 threshold level, and that full mediation is demonstrated when it exceeds 0.8. Results show that 61.6% of the total effect is due to mediation effects. Thus, the relationship between SCMP and organisational performance is significantly mediated by competitive advantage.

4.3.5 *Importance Performance Map Analysis (IPMA).*

A post-hoc analysis was executed using the importance-performance matrix analysis (IPMA) by setting organisational performance as the target construct. The method allows managers to improve management strategies since it indicates the main factors that require an immediate response or improvement [47]. The importance scores are the total effects of the outcome variable in the structural equation model. Further, performance values or index are derived by rescaling the latent variables score ranging from 0 to 100 [18]. The higher the factor yield, the closer the factor is to 100, and all total effects should be higher than 0.10 and significant at $p \leq 0.05$ [34]. Thus, the preference will be on improving the performance of those constructs that indicates importance about their explanation of a target construct, even though at the same time having a relatively low Performance.

Figure 4 presents the total effects (importance) on the x-axis and mean values (performance) on the y-axis used for the importance-performance matrix analysis. From the results, logistics management has a relatively high total effect on ORGPER followed by ICT, SD, PM and CRM in that order. Specifically, LM has a positive total effect =0.199 (importance) on the ORGPER, indication that a 1-unit increase LM will increase the performance of ORGPER by 0.199 ceteris paribus. However, LM has the lowest performance index compared to the other indicators of SCM practices.

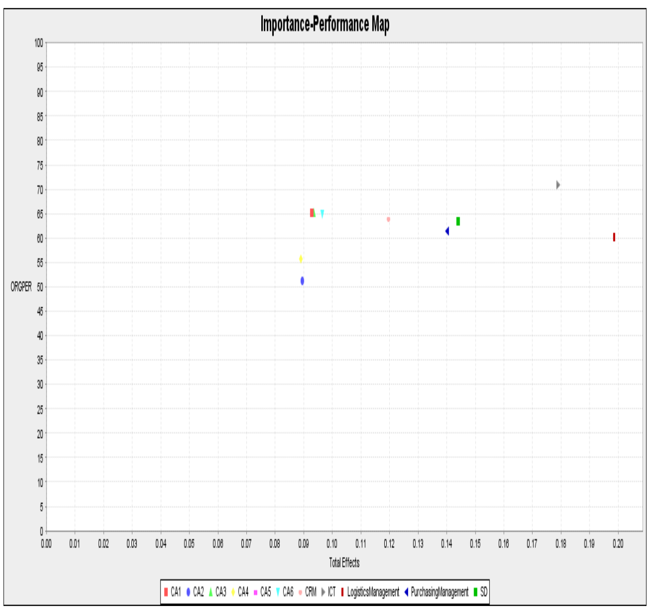

Figure 4: Importance Performance Matrix Analysis for target Variable ORGPER

5.0 Discussions and Conclusion

This paper intended to analyse both the direct and indirect effect of SCMPs on ORGPER through competitive advantage as the mediating variable. Path analysis results indicated that all the path coefficients are positive. All the four hypotheses were accepted at 5% significance level. Specifically, the results indicate that both SCMPs and CA have a positive and statistically significant influence on ORPER. However, SCMPs has a more direct influence on CA **(β= 0.730)** compared to that of ORGPER **(β= 0.237)**. Arguably, the relatively low influence of SCMPs is due to other factors that could influence organisational performance, which was out of the scope of this study. Despite the relatively low direct influence of SCMP on ORGPER, the total effect of SCMPs (**0.618**) (0.203+ (0.730*0.522) = **0.618)** is quite pronounced indicating the critical role of SCMPs in explaining ORGPER.

Among the five exogenous drivers, Logistics management has the strongest total effect on ORGPER (0.199), followed by ICT (0.179), SD (0.144), PM (0.140) and CRM (0.120). These results revealed critical areas where management and policymakers can focus on enhancing competitive advantage and improve organisational performance in the dairy industry. Therefore, it is recommended that managers pay particular focus on logistics activities that positively influence both competitive advantage and organisational performance in the dairy industry. Correspondingly, managers should concentrate on logistics activities that strive to optimise milk collection through systems like a milk run, establish bulking and cooling facilities in strategic locations. Simultaneously, policy interventions from both the national and local governments are required to address logistical issues beyond the purview of the enterprise. Specifically, local and national governments should improve the road infrastructure, connection to the national grid and alternative source of cheap energy and taxation regime to encourage investment in cold supply chain types of equipment.

5.1 Conclusions

This study sought to establish the structural relationship among SCMPs, competitive advantage and ORGPER using the dairy supply chain in Kenya. The results confirm that SCM plays a very critical role in securing competitive advantage and improving the overall organisational performance in the dairy industry. The influence of SCMPs on ORGPER can be either directly or indirectly through competitive advantage. Therefore**,** increasing SCMPs may lead to high levels of competitive advantage and organisational performance in the dairy industry in Kenya.

The current study was not without limitations. The focus of the current study was on SCMPs as the predominant determinant of organisational performance. However, ORGPER is influenced by many factors; therefore focusing on one factor might be inconclusive. Therefore, future studies should consider the moderating effects of factors such as operational environment, capital, technology, and management capacity. Additionally, the current study assumed recursive relationships to model causal relationships among the constructs. However, the relationships among the study constructs can be complicated and not always straightforward since enhanced competitive advantage, and increased organisational performance could have improved the levels of SCM practice. Therefore, future studies should consider the non-recursive model among SCMPs, CA, and organisational performance.

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