
Examination of Effects of Internal Procurement Processes on Performance of Dairy Producer Co-operative Societies in Kenya

Martin M. Mugambi¹, Emma Anyika and Dennis. K. Muthoni
The Co-operative University of Kenya, Nairobi

¹Corresponding Author: matinmughambi@gmail.com

Abstract

Procurement is the nerve center of performance in every institution and therefore requires adoption of a strict system. Kenyan dairy Co-operative societies lose about 4 billion shillings every year due to inflated procurement quotations and post-harvest losses brought about by inadequate facilities. Efficient integration of internal procurement processes can contribute greatly in eliminating these challenges but no Co-operative has strongly been able to integrate procurement processes in their systems. This study examines effects of internal procurement processes on performance of dairy producer Co-operative societies in Kenya. Specifically, it examines effect of requisition procedures on performance of dairy producer Co-operative societies in Kenya, to determine effect of ordering procedures on performance of dairy producer Co-operative societies in Kenya, and establish effect of inspection procedures on performance of dairy producer Co-operative societies in Kenya. A descriptive correlational design was adopted and target population comprised of 72 dairy producer co-operative societies involved in production and processing of dairy products in Kenya. Census technique was employed for sampling. A questionnaire was used as the main data collection instrument and were reviewed for validity and reliability through a pilot study. Data collected was analyzed through descriptive and regression methods. The study established that requisition procedures, ordering procedures and inspection procedures had significant positive relationship with performance of dairy producer co-operative societies in Kenya. Findings revealed that requisition procedures ($p=0.001$), ordering procedures ($p=0.0041$) and inspection procedures ($p=0.0015$) had significant positive effects on performance of dairy producer co-operative societies in Kenya. Therefore, the study recommends that for better performance of dairy producer Co-operative societies in Kenya, the co-operatives should integrate efficient requisition procedures, ordering and inspection procedures in their procurement functions.

Keywords: Procurement processes, requisition procedures, ordering procedures, inspection procedures and performance.

JSSBT, Vol. 2 No. 1 (June, 2021), pp. 42 – 52, © 2021 The Co-operative University of Kenya

INTRODUCTION

Procurement is the nerve centre of performance in every institution whether public or private and therefore requires a strict system to be adopted. Procurement can be defined as acquisition of goods and/or services at the best possible total cost of ownership, in the right quality and quantity, at the right time, in the right place and from the right source for

the direct benefit or use of corporations, individuals, or even governments (Njoroge, 2012). Simple procurement may involve nothing more than repeat purchasing. Lengthy procedures have sometimes undermined efficiency and ultimately performance in procurement systems (Claasen, 2020). Internal procurement processes are vital in the Co-operative societies, since procurement in

general is an important part in Co-operative spending, thereby contributing to Co-operative performance.

In the United States, agricultural Co-operatives have enjoyed mainstream success. There are over 29,000 Co-operatives employing over 2 million people with over USD 652 billion in annual revenue, where dairy Co-operatives contribute over 20% of this revenue (Pitman, 2018). According to National Milk Producers Federation report of 2019, U.S cheese exports kept rising year over year during the May-July period, while exports of dairy ingredient products, which make up most of U.S dairy exports further receded from last year's relatively high levels. Cheese exports had grown strongly by this measure from 2.4 % in 2013 to 7.1% in 2017 (NMPF, 2019). However, these levels subsequently receded and then struggled to regain that previous high level, complicated by current trade turbulence in their Co-operative societies. Procurement processes such as requisition, request for proposal, request for quotation, request for expressions of interest, and ordering ought to be clear, fair and rigorously implemented, and so can be a tremendous undertaking to the procurement team, and the associated support resources (NMPF, 2019). Co-operative purchasing is an independent organ in many Co-operatives in the U.S, whose function is to oversee procurement processes in organizations including dairy Co-operative societies. Its mandate is to undertake procurement processes from issuing of purchase requisitions for certain materials to ensuring goods delivered adhere to set requirements of Co-operatives in an effort to increase cost and time savings (NASPO, 2018).

In Denmark, the dairy industry originates way back into the eighteenth century and comprises of the universal assemble foods and 30 small dairy organizations, together generating 4.7 billion kilograms of milk from a total of 61 production plants in Denmark (Knechtges, 2011). Dairy production firms owned by Danish and Swedish dairy producers are the biggest dairying sector in Europe. The sector forms more than 90% of the dairy

production in Denmark and 66% of dairy production in Sweden (Knechtges, 2011). According to a report carried out in public and private organizations from Denmark, Finland, Norway and Sweden on market trends and predictions for 2016 and beyond by KPMG, only one-half of those surveyed made full use of their procurement processes to manage their direct spend. This proportion decreased to an even lower 30% for indirect spend (KPMG, 2016). Therefore, there appears to be significant scope for many organizations to get more value out of their procurement processes (KPMG, 2016).

In Africa, many Co-operative societies view effective implementation of procurement processes as an approach that costs more. In Eastern Africa, the dairy sector is crucial for rural development, poverty reduction and food and nutrition security. However, its potential remains underexploited (Tondel, 2015). Despite a strong interest from policy makers and investors and the ongoing restructuring of dairy value chains, a number of sourcing, production, marketing and trade constraints hinder their development. East African countries face similar issues, notably low dairy productivity and inadequate milk quality. These constraints originate from various challenges including technological, capacity, organizational and policy ones (Jokovic', 2019). Eastern Africa is the leading milk producing region in Africa, representing 68% of the continent's milk production. Ethiopia, Kenya and Tanzania are among the biggest dairy producers in Africa (Neven, Reardon, Hernandez, & Tembo, 2017). In Rwanda, according to the National Dairy Strategy (NDS), milk has been rising rapidly from 445 million liters in 2012 to 528 million liters in 2016. This upward surge in milk production has been attributed to a favorable institutional and policy environment (Keith *et al*, 2016). In Tanzania, the dairy industry has enormous potential for growth. Livestock farming is part of the Tanzanian culture and dairy is potentially a high-value product in an upcoming market. Demand for packaged milk is significantly higher than supply. The

combined milk supply of the country's processing plants is less than 150,000 liters per day (Claasen, 2020).

Following the enactment of the new constitution in 2010, Kenya's agriculture sector was devolved to the county governments. Most of the dairy development activities including extension services, disease and pest control and breeding are now undertaken by the counties. Additionally, most of these counties have subsequently made dairy as one of their flagship projects. This underscores the importance attached to the industry by all stakeholders at the national and county levels (KDB, 2019). Kenya's dairy industry is private sector driven. The sector is dynamic with high growth figures of marketed milk and investments by dairy societies and processors mainly in the cold chain, production of long-life milk and milk powder (KDB, 2020). The dairy sector in Kenya is one of the largest and most developed in sub-Saharan Africa. Currently the sector provides food, income and employment for approximately 1.8 million people across the dairy value chain: farmers, transporters, traders and vendors, employees of dairy Co-operative societies, milk processors, input suppliers and service providers, retailers and distributors (Ettema, 2017). It also contributes 4.5% to the country's GDP and approximately 12% and 44% to the agricultural and livestock GDPs respectively with the current milk production annually estimated to be over 6 billion liters (MOA, 2018). Currently, there are 647 dairy Co-operatives in Kenya occupying a 3% market share. Among the challenges facing the dairy sector is high post-harvest losses of milk, which currently stand at 6% (MOA, 2018).

In dairy Co-operative societies, especially those dealing with dairy processing activities, the procurement function plays its role of ensuring need for operational supplies, services and or equipment are availed in lead time (Onjala, 2017). Co-operative societies have not dedicated the resources needed for risk mitigation planning in the supply chain. Procurement risk analysis is part of their overall risk map. However, more than half do not set strategies to manage their supplier risks, while half do not have internal procurement and control systems in place (Njoroge, 2012). Identifying critical risks for key procurement processes and

understanding requisition procedures, the risk horizon of the suppliers and sub-suppliers and critical appraisal of shipped supplies should be one of the core responsibilities of the procurement function (KPMG, 2016). The internal procurement process is initiated with needs for operational supplies, services and/or equipment in the organization (Frank, 2020). In different organizations, the heads of departments raise requisitions in liaison with staff in their departments to ensure that what is requisitioned is allowable and justifiable. Organizations may institute committees to review quotations for a given threshold. Such a committee is convened whenever the organization is purchasing items whose unit value exceeds the threshold amount (Aurino, Susanto, & Azkia, 2016). Procurement of requisitions less than the set amount can be approved by the designated staff in consultation with the coordinator/director and forwarded to the accounts department for procurement, whereas for major procurement, requisitions are forwarded to the director for approval and directed to the procurement department for a procurement order (Aurino, Susanto, & Azkia, 2016).

In facilitating the procurement process, the head of department tries to obtain at least three quotations from three different prospective or pre-qualified suppliers and compares them. Upon selection of a potential supplier and after approval of the process, a local purchase order (LPO) is placed for the most justifiable quotation (PPDA, 2015). The selected member of the department responsible for receiving and maintaining inventory receives the delivery on goods received note (GRN). Inspection of goods is done and a GRN signed by the supplier verifying accuracy and standard of delivery is produced. Once the delivery is complete, all the supporting documents are forwarded to the accounts department (from requisition, quotes, review minutes, invoice, delivery note, and goods received note) (Frank, 2020).

Dairy producer Co-operative societies are formed to protect the interest of small producer by making available items of their

need for production like raw materials, tools and equipment, machinery etc. (Frenzyied, 2014). Currently, there are 22,883 Co-operative societies in Kenya, of which 6,774 are agricultural (producer) and 16,109 are non-agricultural Co-operatives. 335 of these producer Co-operatives are dairy Co-operative societies (Otieno S. , 2019). These Co-operatives are further classified by the produce that they handle, with the key ones in cash crops, such as coffee, cotton, pyrethrum, sugar-cane, and dairy. Other agricultural Co-operatives include fishery, farm purchase and multi-produce Co-operatives, which market agricultural produce and mobilize savings to purchase land for members (Muchiri, 2019).

Producer Co-operatives, also known as Marketing Co-operatives are agricultural Co-operatives that engage in the marketing of members' produce as their main activity, though several Co-operatives, such as coffee and dairy Co-operatives, have ventured into manufacturing in a bid to add value to produce (Frenzyied, 2014). Recent stabilization of the Kenyan dairy sector has been achieved by an increase in the number of milk processors and the adoption on modern technology (Linden, 2019). Currently, over 30 milk processors and 67 mini dairies with a total processing capacity of about 3.75 million litres of milk per day have been licensed to process and package milk in the country (FWAfrica, 2020). In 2018, approximately 46% of this capacity was utilized, where raw milk intake by the small, medium and large-scale processors stood at 636 million liters (11.35% of total annual production) (FWAfrica, 2020).

The milk production in Kenya is estimated to grow to 12 billion liters by 2030 with a growth intake to the formal processing sector rising to 1 billion liters in 2025. Notable developments in the sector have been with firms like Brookside, Sameer Agriculture and Livestock Limited (SALL), Meru Dairy, Githunguri Dairy, New KCC, Bio Foods and Eldoville having invested in new plants and plant extensions in the recent past (FWAfrica, 2020).

For the past decade or so, many dairy Co-operatives have also continued to venture into processing of dairy products as a result of unconstrained response to the increasing demand for milk and milk products necessitated by the increasing population (Otieno, 2019). The cost of running dairy Co-operative societies has thus increased due to increase in facilities, which has made members to incur more expenses to finance the Co-operatives' procurement expenditure. Additionally, dairy Co-operatives lose about 4 billion shillings every year due to post – harvest losses brought about by inadequate facilities leading to lack of sufficient capacity, ageing infrastructure and inflated procurement quotations (Frank, 2020). In their quest for expansion, most dairy Co-operatives also continue to lose millions of shillings and time in purchasing various products due procurement and infrastructural challenges bogging down the sub-sector. This has created agitation in many dairy Co-operative societies and effective internal procurement measures are being sought after to help in cutting down the expenses in an effort to make dairy Co-operative societies accessible to more members (Njoroge, 2012). It is for this reason that the study endeavored to examine the effects of internal procurement processes on the performance of dairy producer Co-operative societies in Kenya.

METHODOLOGY

Research Design: The study applied descriptive correlational research design. Descriptive design was used since the study gathered quantitative and qualitative data that described the nature and characteristics of effects of internal procurement processes on performance of dairy producer Co-operative societies in Kenya. Descriptive design is a theory-based design which aims to accurately and systematically describe a population, situation or phenomenon and can answer the question “what”, but not why questions (McCombes, 2019). Descriptive research design portrays the characteristics of persons, situations, or groups and the frequency with

which certain phenomenon occur; these studies observe, describe and document aspects of a situation as it naturally occurs (Dulock, 1993).

It also discovers associations or relationships between or among selected variables. Descriptive research aims to describe the state of affairs as it exists and also includes surveys and fact-finding enquiries (Kothari, 2014). Correlation research design was used to determine the extent to which two variables are related. This design uses the correlation coefficient statistic to measure the strength and direction of the linear relationship between the involved variables. The two study designs facilitated towards gathering reliable data describing the true characteristics of effects of internal procurement processes on the performance of dairy producer Co-operatives in Kenya.

Scope, Data Sources and Sampling:

The target population of the study comprised of dairy producer Co-operative societies in Kenya, which formed the unit of analysis. For purpose of the study, the unit of observation was 72 dairy producer Co-operative societies involved in both production and Processing of dairy products in Kenya. Census sampling technique was applied for sampling thus, the study population comprised of all the 72 dairy producer Co-operatives involved in production and processing of dairy products in Kenya. Census technique was preferred since the population of 72 was small and the study aimed to reach all the procurement managers in all dairy producer Co-operative societies involved in processing. The targeted respondents comprised procurement staff from each of the producer Co-operatives involved in both production and processing of dairy products in Kenya. Questionnaire

was the main instrument used to collect data from the respondents.

The Model: The specific objectives of the study were analyzed using both descriptive statistical data analysis and inferential statistics including correlation and regression analysis. The correlation analysis was used to establish the nature of the existing relationship between the dependent variable and the independent variables with statistical significance. The regression analysis including Analysis of Variance (ANOVA) and beta co-efficient of determination was used to determine the influence or effect that the independent variables had on the dependent variable with statistical significance. The multiple regression model was of the form:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$$

Where:

β_0 = Constant

Y = Performance of dairy Co-operatives

X_1 = Requisition Procedures

X_2 = Ordering Procedures

X_3 = Inspection Procedures

β_i = Coefficients of regression for the independent variables X_i (for $i = 1, 2, 3$)

ϵ = Error Variable

Measurement of Variables: Each independent variable of the study was measured using the ordinal/Likert scale. The scale was adopted since it provided the easiest means of comparison between the variables. It was also convenient due to the simplicity nature of analysis and categorization of data. The scale comprised an ordinal scale of 1-5 (1= never, 2 = small extent, 3 = moderate extent, 4 = large extent, 5 = very large extent). Operationalization of the research variables was as shown in Table 1.

Table 1: Operationalization of Variables

Variable	Scale	Instrument
Requisition Procedures	5 Point Likert Scale	Questionnaire Interview Guide
Ordering Procedures	5 Point Likert Scale	Questionnaire Interview Guide
Inspection Procedures	5 Point Likert Scale	Questionnaire Interview Guide
Performance of dairy co-operative societies	5 Point Likert Scale	Questionnaire Interview Guide

FINDINGS

Descriptive Analysis: The respondents were asked different questions that are indicators of internal procurement processes and their effects on procurement performance. The category of data gathered was ordinal thus median was used as the suitable measure of central tendency. On the objective of requisition procedures, respondents were asked on the organization's level of preparation and implementation of procurement requisition plans and the modal class (57.6%) was that of over 50% level of preparation and implementation. The median was also found to be 5 which implies that on average the organizations had over 50% level of preparation and implementation of procurement plans. On the accuracy level in procurement requisitions, the modal class was of the respondents (45.5%) who reported over 50% level of accuracy and the median was 4, which signified that on average the firms had 40%-50% level of accuracy in the procurement requisitions used. The level of requisition approval in the organization was reported to be between 40% - 50% by 42.4% of the respondents, which was also the modal class. This signified that on average the organizations had 40%-50% level of procurement requisition approval annually. Additionally, 54.5% of respondents reported requisitions are monitored over 6 times in the organization annually. Additionally, respondents (51.5%) reported that organizations' rate of adherence to requisition management process was over 6 times annually, which was the modal class. The resulting median was 5 which signifies that on average the organizations adhere to requisition management process more than six times annually. Also, 45% of respondents indicated training is done 1-2 times annually, while 48.5% reported that the rate of application of technology for requisition is over 6 times annually.

The study also established that economic order quantity is never applied on purchases as reported by 48.5% of the respondents. This

formed the modal class with the median resulting to 5 which signifies that on average the management never applies economic order quantity on purchases in organizations. On the rate of application of the 'just in time' principle, the modal class is of the respondents who reported 1 - 2 times in a year. The median was found to be 4 which signifies that on average the organizations observe the just in time principle 1 -2 times annually. Majority of respondents (25.8%) indicated that the level of compliance on ordering procedures was between 20% - 40% with this being the modal class and the median resulting to 4, which signifies that on average the organizations had 20-40% level of compliance with ordering procedures. Alternatively, majority of respondents (45.5%) thought the level of expertise of staff in inspection procedures was 0%-20%. This signifies that on average the institutions had 0%-20% of staff who had expertise on inspection procedures. Also, 68.2% of respondents indicated the response time level by inspectors was over 50% while 45.5% of respondents reported 0%-20% error rate. Additionally, majority of the respondents (60.6%) felt that effective inspection procedures are moderately applied in the organization. This implies that on average effective inspection procedures are applied 3-4 times in the organization annually. The study also established the level of adherence to procurement processes by organizations to be above 50% while the level of reduction of procurement expenditure in the organization was also above 50% as was reported by 68.2% and 48.5% of the respondents respectively. The level of transparency and accountability of procurement resources was reported to be over 50% while quality level of procured goods and services was between 40% - 50% as indicated by 60.6% and 42.4% of respondents respectively, as shown in Table 2.

Table 2: Performance of Co-operative Societies

	0%- 20%	20%- 30%	30%- 40%	40%- 50%	Over 50%	Median
What is the level of adherence to procurement processes	0% (0)	3% (2)	12.1% (8)	16.7% (11)	68.2% (45)	5
What is the level of procurement expenditure reduction in the organization	6% (4)	6% (4)	13.6% (9)	25.8% (17)	48.5% (32)	4
What is the level of transparency and accountability in procurement processes	0% (0)	3% (2)	3% (2)	33.3% (22)	60.6% (40)	4
What is the level of quality of goods and services procured	0% (0)	3% (2)	19.7% (13)	42.4% (28)	34.8% (23)	5

DISCUSSION

The general objective of the study was to examine the effects of internal procurement processes on the performance of dairy producer Co-operative societies in Kenya. It was established that the level of application of internal procurement processes had remarkable effects on procurement performance of organizations to a great extent. The research study examined the effect of requisition procedures on the performance of dairy producer Co-operative societies in Kenya. It was established that most of the dairy Co-operative societies had implemented procurement requisition plans in the procurement department. Investment in requisition planning and implementation ensures smooth procurement process especially when used in a broader way, possibly applied in the entire organization (Hao, 2018). It also increases the level of transparency because performance indicators are uniformly raised and benchmarks can be set. Additionally, most of the Co-operative societies had adopted information technology in receiving requisitions, in the tendering process and in purchasing organizational supplies. The study established that implementation of effective requisition procedures helps in determination of re-order levels and stock control management, (by increasing transparency in the procurement process). The study also found that effective implementation of requisition procedures leads to accuracy and efficient monitoring process for orders, improves internal communication and facilitates better control

of orders. The study further established that requisition planning, accuracy in requisitions use, approval rate, monitoring, requisition management practices, level of training and technology affects procurement performance in dairy producer Co-operative societies in Kenya to a great extent. It was also revealed that requisition procedures were not maximally implemented in dairy firms in Kenya. Therefore, dairy producer Co-operative societies in Kenya should adopt and implement effective requisition procedures in all departments and apply technology to connect all departments in the organization.

The study also sought to examine the effect of ordering procedures on the performance of dairy producer Co-operative societies in Kenya. It was established from the findings that, ordering procedures have effects on procurement performance in dairy Co-operative societies. Ordering procedures affects the quantity of orders placed, delivery time, costs and subsequent payment to suppliers to a great extent. The Co-operative societies face low response rates causing longer cycle times and high opportunity costs; failure to order through approved suppliers due to low response rates thus increase in purchase prices/costs and; reduction in the ability to negotiate lower prices due to low response rates. Ethical ordering and informing procedures contributed the most for success of any procurement function (Chepkurui & Chepkwony, 2017). From the findings, it was established that Performance of dairy producer Co-operative societies in Kenya is

hampered by sustained ordering costs hence defying value for money. It was also established that low level of application of the 'Just in time' principle in ordering procedures derailed procurement performance in dairy Co-operative societies. However, most of the dairy Co-operatives had a moderately high level of compliance with ordering procedures. Dairy Co-operative societies should therefore adopt the 'Just in time' principle as an incentive for further bettering delivery time of orders as well as minimizing ordering costs.

Further, the study also sought to establish the effect of inspection procedures on the performance of dairy producer Co-operative societies in Kenya. It was established that inspection procedures are also a major determinant of performance of dairy producer Co-operative societies in Kenya. It has been established in previous studies that without inspection and acceptance of goods, works

and services no payment should be made (UON, 2018). This indicates the magnitude of inspection procedures in every organization. It was established that the level of training, expertise and experience of inspectors moderately influenced response time as well as error rate in inspection hence affecting the outcome of inspection reports of goods and services procured in Co-operative societies. A fundamental requirement for a public liquid milk supply is that it will be safe, that is, it will not be a medium for the transmission of organisms responsible for human disease. The study revealed that level of expertise, response time and error rate affected the performance of procurement function in dairy producer Co-operative societies to a great extent.

Regression Analysis: The results of the multiple regression analysis are presented in Table 3.

Table 3: Multiple Regression Analysis

Table 3: Multiple Regression Analysis

Model Summary ^b						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	
1		.918 ^a	.843	.805	.51038	
ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.214	22	.114	11.833	.000 ^b
	Residual	5.045	40	.200		
	Total	6.259	62			
Coefficients ^a						
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	Constant	3.374	.842		4.009	0.000
	Requisition Procedures	0.842	.046	0.330	1.830	0.001
	Ordering Procedures	0.656	.13	0.032	5.046	0.0041
	Inspection Procedures	0.752	.88	0.167	8.545	0.0015

From the results of multiple regression analysis, the R and R^2 coefficients of determination were 0.918 and 0.843 respectively. The R^2 coefficient signifies that 84.3 % of the total variation in the dependent variable, performance of Co-operative societies, can be predicted or explained by the independent variables, requisition procedures, ordering procedures and inspection procedures. However, from this value there is a remainder of 15.7% of variance in the dependent variable, performance of Co-operative societies, which can be predicted or explained by other factors not studied in this research. R squared is a goodness-of-fit measure for linear regression models. This statistic indicates the percentage of the variance in the dependent variable that the independent variables explain collectively (Frost, 2017). According to Frost, R-squared measures the strength of the relationship between your model and the dependent variable on a convenient 0 – 100% scale. Therefore, since the R^2 value is above 80%, the multiple regression model has a good fit.

ANOVA (Analysis of Variance) was applied in testing the statistical significance of the multiple regression model. From the ANOVA analysis, the significance of F is 0.000, which is less than 0.05, with F value of 11.833. This indicates that the value of F is significant at 0.00 significance level. Since the F value is significantly large, it can therefore be concluded that the coefficients of the independent variables are not equal to zero. Thus, more than one independent variables have an effect on the dependent variable. Requisition procedures had a beta coefficient value of 0.842, which is greater than zero, and a p-value of 0.001 which is less than 0.05.

This indicates that requisition procedures have a statistically significant positive effect on performance of Co-operative societies. On the other hand, ordering procedures had a coefficient of 0.656 and a p-value of 0.0041, which is less than 0.05 indicating a statistically significant value since 0.656 was

greater than zero. Therefore, this means that ordering procedures have a statistically significant effect on performance of Co-operative societies. Additionally, inspection procedures had a coefficient of 0.752 which is greater than zero and p-value of 0.0015 which is less than 0.05. This indicates that the value was at 0.05 significance level. Therefore, the study concludes that inspection procedures have a statistically significant positive effect on performance of Co-operative societies. From these results, the study also concludes that the model is statistically significant in predicting the effect of requisition procedures, ordering procedures and inspection procedures on performance since the overall model was significant.

From the multiple regression analysis, the substitution of the model equation $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$ thus results to: $Y = 3.374 + 0.842X_1 + 0.656X_2 + 0.0752X_3 + \epsilon$.

CONCLUSION

The study concludes that there is a positive relationship between requisition procedures and procurement performance in dairy producer Co-operative societies in Kenya. The study found that a unit increase in requisition procedures will result to a 0.842 increase in procurement performance of dairy producer Co-operative societies in Kenya. In addition, requisition procedures, requisition planning and implementation, accuracy in use of requisitions, approval rate, monitoring, requisition management practices, level of training and technology application have an effect on procurement performance of dairy producer Co-operative societies in Kenya.

The study also concludes that there is a positive relationship between ordering procedures and procurement performance in dairy producer Co-operative societies in Kenya. It was established that a unit increase in ordering procedures will lead to a 0.656 increase in procurement performance of dairy producer co-operative societies in Kenya. Additionally, ordering, order quantity, 'just in time' ordering, ordering costs, level of compliance with ordering procedures and

payment of suppliers have an effect on procurement performance of dairy producer Co-operative societies in Kenya.

Lastly, the study concludes that there is a positive relationship between inspection procedures and procurement performance in dairy producer Co-operative societies in Kenya. A unit increase in inspection procedures will lead to a 0.752 increase in procurement performance of dairy producer Co-operative societies in Kenya. The study also found that level of expertise, response time, error rate and application of inspection procedures have an effect on procurement performance of dairy producer Co-operative societies in Kenya.

RECOMMENDATIONS

The study revealed that requisition procedures were not maximally implemented in dairy firms in Kenya. Therefore, the study recommends that dairy producer Co-operative societies in Kenya should also adopt and implement effective requisition procedures in all departments. Additionally, the societies should apply technology to inter-connect all departments in the organization.

The study also established also established that low level of application of the 'Just in time' principle in ordering procedures derailed procurement performance in dairy Co-operative societies. This study therefore, recommends that dairy Co-operative societies should adopt the 'Just in time' principle as an incentive for further bettering delivery time of orders as well as minimizing ordering costs. The study also found out that most of the dairy Co-operatives had a moderately high level of compliance with ordering procedures. It is therefore recommended that strict compliance regulations be adopted to ensure efficiency of ordering procedures in dairy Co-operative societies.

The study found out that the level of training, expertise and experience of inspectors moderately influenced response time as well as error rate in inspection hence affecting the outcome of inspection reports

of goods and services procured in Co-operative societies. This study therefore recommends intensified training of staff on modern trends and practices of quality checks and procurement processes in general.

REFERENCES

- Aurino, D., Susanto, T. & Azkia, N. (2016). Process Analysis on Order Processing Function to Reduce Order Processing Time: Indonesian Context. *International Journal of Research in Management and Technology*, 06, 76.
- Chepkurui, N. & Chepkwony, J. (2017). E-Ordering and E-informing on Spplly Chain Performance in Kenyan State Corporations in Nairobi County. *International Journal of Economics, Commerce and Management*, V(4).
- Claasen, F. (2020, March 16). *Investing in a Sustainable Dairy Industry in Tanzania*. Retrieved September 7, 2020, from Solidaridad: www.solidaridadnetwork.org
- Dulock. (1993). Research Design: Descriptive research. *Journal of Pediatric oncology Nursing*, 154 - 157.
- Ettema, F. (2017). *Dairy Development in Kenya*. Nairobi: Kenya Market - led Dairy Programme.
- Frank. (2020, March 6). *The dairy industry in Kenya: Production, capabilities, innovations and trends*. Retrieved Septemeber 10, 2020, from Food Business Africa: www.foodbusinessafrica.com
- Frenzyied. (2014, August 22). *Cooperative Movement in Kenya*. Retrieved September 26, 2019, from Funnyyardstick website: www.funnyyardstick.wordpress.com
- Frost, J. (2017). *Multicollinearity in Regression Analysis: Problems, Detection, and Solutions*. Retrieved September 25, 2020, from Statistics by Jim: www.statisticsbyjim.com
- FWAfrica. (2020, March 10). *The dairy industry in Kenya: production capabilities, investments, innovations and*

- trrends. Retrieved September 9, 2020, from Food Business Africa: <http://www.foodbusinessafrica.com>
- Hao, D. (2018, January 30). *What is a Purchase Requisition and Why It Is Important for Your Business*. Retrieved October 8, 2019, from Procurify: www.blog.procurify.com
- Jokovic'. (2019). *Competition and Integrity in Public procurement*. Rakuten: Kobo.
- KDB. (2019). *Milk Producers Group*. Nairobi.
- KDB. (2020). *Milk Producers Groups*. Retrieved September 19, 2020, from Kenya Dairy Board Website: www.kdb.go.ke
- Keith et al. (2016). *Sourcing Is a Continuum. In: Strategic Sourcing in the New Economy*. New York: Palgrave Macmillan.
- Knechtges. (2011). *Food safety: Theory and Practice*. Jones & Bartlett publishers.
- Kothari. (2014). *Research Methodology : Methods and Techniques*. New Age International Publisher.
- KPMG. (2016). *Global Organic Milk Production Market Report*.
- Linden, J. (2019, August 28). *Dairy producers in Central Kenya see output growth*. Retrieved September 8, 2020, from Feed Strategy: <http://www.feedstrategy.com>
- McCombes. (2019, August 20). *Descriptive Research*. Retrieved October 6, 2019, from Scribbr: www.scribbr.com
- MOA. (2018). *The ministry of Agriculture, livestock and fisheries annual report*. Nairobi: MOA.
- Muchiri. (2019, August 11). *Cooperative Societies in Kenya – Cooperative Movement in Kenya*. Retrieved September 26, 2019, from InformationCradle: www.informationcradle.com
- NASPO. (2018). *National Association of State Procurement Officers annual report 2017-2018*. Maryland: NASPO.
- Neven, Reardon, Hernandez, & Tembo. (2017). *Smallholder farmer participation in modernization of a food system-the dairy value chain in Zambia*. Rome: FAO.
- Njoroge, P. (2012). *Effects of public procurement procedures on financial performance of farmers' cooperative societies in Kiambu County*. Nairobi: University of Nairobi.
- NMPF. (2019). *Dairy Market Report*. Wiscounsins: National Milk Producers Federation.
- Onjala, L. (2017). *Electronic Procurement Implementation and Supply Chain Performance of Dairy Firms in Kenya*. Nairobi: University of Nairobi.
- Otieno, S. (2019). *The role of Cooperatives in Social and Economic Development of Kenya and Actions Required to accelerate Growth and Development of the Sector in Africa*. Instabul, Turkey: Cooperative Alliance of Kenya.
- Pitman. (2018). *History of cooperative societies in the United States: An overview*. Wiscounsins: UW center for cooperatives.
- PPDA. (2015). Nairobi: The public procurement oversight authority.
- Tondel, B. (2015). *Recent developments in the dairy sector in Eastern Africa. European Centre for development policy management*.
- UON. (2018, October 18). *Inspection and Acceptance Committee Meeting*. Retrieved October 8, 2019, from University of Nairobi Procurement Department: www.procurement.uonbi.ac.ke