EXAMINATION OF EFFECTS OF INTERNAL PROCUREMENT PROCESSES ON PERFORMANCE OF DAIRY PRODUCER CO-OPERATIVE SOCIETIES IN KENYA

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DECLARATION

I, the undersigned, declare that this is my own research project presented to the Co-operative University of Kenya for the award of Master of Co-operative Management. I declare that it has not been presented either in whole or in part in any other institution, organization or company for examination purposes.

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DEDICATION

I dedicate this research project to my parents, Mr. Julius Mugambi and Mrs. Catherine Mugambi, for investing in my education and ensuring I un-interruptedly pursue my career dreams and also for their support and encouragement during the entire period of the study.

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ABBREVIATIONS AND ACRONYMS

FAO   Food and Agriculture Organization

GDP   Gross Domestic Product

GRN   Goods Received Note

GOK   Government of Kenya

KDB   Kenya Dairy Board

KPMG   Klynveld Peat Marwick Goerdeler

LPO   Local Purchase Order

MOA   Ministry of Agriculture

NASPO   National Association of State Procurement Officers

NDS   National Dairy Strategy

NMPF   National Milk Producers Federation

PPDA   Public Procurement and Asset Disposal Act

PPOA   Public Procurement Oversight Authority

RFQ   Request for Quotation

RDDP   Rural Dairy Development Project

SCM   Supply Chain Management

US   United States

USD   United States Dollar

DEFINITION OF TERMS

Internal Procurement Processes: procurement process is a generic term for one of several processes within the organization related to the acquisition of goods and services. Organizations identify the internal need, evaluate suitable vendors, negotiate terms, approve an internal purchase requisition, submit a purchase order, receive an invoice and pay it, take delivery of the goods & services and, finally, maintain records for audit purposes (Deshpande, 2019).

Procurement: Procurement is an overarching term for a set of steps that an organization performs to acquire goods and services that are essential to its operations (Deshpande, 2019).

Performance: The accomplishment of a given task measured against preset known standards of accuracy, completeness, cost and speed (Ion & Criveanu, 2016).

Producer Co-operative Societies: A producer co-operative, also known as a marketing cooperative, allows its members, who produce the same or similar products, to co-operatively market and sell the products. Producer/marketing co-operatives are most commonly found in the agriculture industry (Marjorie & Ratner, 2009).

Requisition: In procurement, a requisition is made when employees or departments from within an organization require additional goods or services in order to maintain their business operations. These internal company requirements are communicated by submitting a purchase requisition form – typically to a purchasing department or project manager (Strong, 2018).

Ordering: This is the activity of asking for goods or services from a company, store or manufacturer in a timely fashion. This is done by issuing a local purchase order indicating types, quantities, and agreed prices for products or services (Strong, 2018).

Inspection: It is a process of observing the performance of work or product against requirements that are agreed upon by the project team, stakeholders, and seller (Alby, 2013).

ABSTRACT

Procurement is the nerve centre of performance in every institution whether public or private and therefore requires a strict system to be adopted. 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, leading to lack of sufficient capacity and ageing infrastructure. 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. The general objective of the study was to examine effects of internal procurement processes on performance of dairy producer co-operative societies in Kenya. The specific objectives of the study were to examine 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 to establish effect of inspection procedures on performance of dairy producer co-operative societies in Kenya. The study adopted descriptive correlational design 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, with respect to the unit of observation, which was the dairy producer co-operative societies involved in production and processing of dairy products in Kenya. Questionnaires were used as the main data collection instrument in a drop and pick later method and were reviewed for validity and reliability through a pilot study. Data collected was edited and reviewed for any errors and analyzed through descriptive and regression methods, where data collected was coded and entered in Statistical Package for Social Sciences version 26 for analysis. 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 recommended 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.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

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).

1.1.1 Global Perspective on Internal Procurement Processes and Performance of Dairy Co-operatives

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. 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 cooperative societies.

In sourcing for certain materials, for instance, regardless of whether it is a requisition, request for proposal, request for quotation, request for expressions of interest, ordering etc., managing those processes can be a challenge. These procurement Processes 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). On the other hand, 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.

Effective procurement is a powerful function in any organization. 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). This suggests that a good starting point would be to ensure that procurement is fully involved in developing a sourcing strategy that underpins the overall business strategy, before taking the lead in managing the sourcing process.

1.1.2 Regional Perspective on Internal Procurement Processes and Performance of Dairy Co-operatives

The existence and integration of internal procurement processes in various operations and support functions in an organization, harmonizing production with new orders, purchasing with demand, scheduling, delivery and receipt with customer requirements has contributed greatly to the performance of many dairy co-operative societies (Keith et al, 2016). The use of adequate and appropriate internal procurement processes strategically, potentially impacts performance of dairy co-operatives and generally co-operative economy. However, disruptions in procurement processes at any level, poorly coordinated procurement processes, inappropriate internal monitoring mechanisms and lack of transparency in internal procurement processes lead to low profitability (Jokovic', 2019).

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 (Tondel, 2015).

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 litres in 2012 to 528 million litres in 2016. This upward surge in milk production has been attributed to a favorable institutional and policy environment. In Uganda, there are 214 registered cooperatives, 70% of which belong to the Uganda Crane Co-operative Creameries Co-operative Union, mostly representing co-operatives in the milk producing areas of Western Uganda (FAO, 2017).

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 litres per day (Claasen, 2020).

Compared to neighbouring Kenya, where 40% of milk is sold processed and packaged, Tanzania's formal dairy market is small, with only 5% sold packaged. The country also lags behind in terms of consumption. It averages 50 litres per year per person, compared to 90 litres in Kenya (Claasen, 2020).

1.1.3 Local Perspective on Internal Procurement Processes and Performance of Dairy Co-operatives in Kenya

Following the enactment of the new constitution in 2010, 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. 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 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 (MOA, 2018). The population of improved dairy cattle is estimated at 4 million while that of the indigenous varieties is 17 million. The current milk production annually is estimated to be over 5.2 billion litres (KDB, The financial statements of the Kenya dairy board, 2016). Currently, there are 647 dairy co-operatives in Kenya occupying a 3% market share. One of the challenges facing the dairy sector is high post - harvest losses of milk, which currently stand at 6% (MOA, 2018). In a bid to address this challenge, GOK on its part, has procured 990 milk coolers for distribution to the counties, to improve access to milk cooling facilities and reduce the time taken between milking and cooling (MOA, 2018).

However, despite these efforts, much needs to be done to satisfy the rapidly growing dairy sector in the country. Internally in co-operatives, 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 do not dedicate 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).

1.1.4 Internal Procurement Processes

The internal procurement process is initiated with needs for operational supplies, services and/or equipment in the organization (Mbabu et al, 2014). 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. Further, heads of departments work closely with the procurement and accounts department to ensure smooth flow of activities in the organization. Additionally, the departmental heads requisition for items needed in their departments in time, for ordering of the items to subsequently take place. The heads also offer advice to the procurement office on specifications of the items to be ordered, which would be inspected for upon receipt of the items (Mbabu et al, 2014).

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) (Mbabu et al, 2014).

1.1.5 Dairy Producer Co-operatives in Kenya

These 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 cooperatives. 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 cooperatives 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).

For instance, following on the run-away success of Githunguri and Meru Dairy Co-operatives, the owners of the Fresha and Mt. Kenya brand of milk and beverage products respectively, several of these co-operatives across Kenya have entered the dairy processing arena in the last decade or so, to enable their members to derive maximum returns from their milk, including Kinangop, Wakulima, Ndumberi, Kabete and many more (FWAfrica, 2020).

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). According to the KDB, 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. 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 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. 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).

1.2 Statement of the Problem

The co-operative movement in Kenya is the strongest in Africa, and a major contributor to the country's economy controlling about 43% of Kenya's GDP. Moreover, dairy co-operative societies contribute over 4.5% to the GDP, with current annual milk production standing at 5.2 billion litres, (KNA, 2019). Dairy co-operatives are one of the fastest growing agricultural subsectors in Kenya providing a livelihood to over 1.8 million smallholder rural households and also contributing to food security in the country, (KNA, 2019). Dairy industry in Kenya is undergoing stiff competition. This has seen them diversify their products and increase their customer's network. Despite this, dairy co-operatives face major challenges in the implementation of procurement processes. 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 cooperatives also continue to lose millions of shillings and time in purchasing various products due procurement and infrastructural challenges bogging down the sub-sector.

Several studies have been undertaken by various researchers on this area of study. Kabega, Kule and Mbera (2016) studied on effect of procurement practices on performance of public projects in Rwanda and concluded that procurement procedures should be monitored and audited to ensure accountability and transparency.

The study, however, focused generally on the public sector and specifically not on the dairy industry and was also not done in Kenya. Onjala (2017), undertook a study on electronic procurement implementation and supply chain performance of dairy firms in Kenya and revealed that some of the dairy firms are still using traditional procurement methods. However, the study left a gap on the significance of various procurement processes on dairy firms in Kenya. Additionally, Njoroge (2005) did a study on effects of public procurement procedures on financial performance of farmers' cooperative societies in Kiambu county. The findings revealed that professionalism in implementation of public procurement procedures ensures assessment of the procurement procedures in profit making farmers' cooperative societies. The study was however confined to Kiambu County and did not explore other cooperative societies in the country. Finally, Njeru (2015) focused on Factors affecting effective implementation of Procurement Practices in tertiary public training institutions in Kenya. The study concluded that procurement policies affects effective implementation of procurement practices but was done specifically on public institutions in Kenya thus creating a gap on dairy cooperative societies in Kenya.

Even though various studies have been carried out on procurement processes, none of them focused on examination of effects of internal procurement processes on performance of dairy producer cooperative societies in Kenya. It is evident from above that this topic has been ignored in research. This research study therefore sought to address this gap in knowledge by examining the effects of internal procurement processes on performance of dairy producer cooperative societies in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective:

The purpose of the study was to investigate effects of internal procurement processes on performance of dairy producer co-operative societies in Kenya.

1.3.2 Specific Objectives

The study was guided by the following objectives: -

i.   To examine effect of requisition procedures on performance of dairy producer co-operative societies in Kenya.

ii.   To determine effect of ordering procedures on performance of dairy producer co-operative societies in Kenya.

iii.   To assess effect of inspection procedures on performance of dairy producer co-operative societies in Kenya.

1.4 Hypotheses

i. H_{01}: There is no relationship between requisition procedures and performance of dairy producer co-operative societies in Kenya.

ii. H_{02}: There is no relationship between ordering procedures and performance of dairy producer co-operative societies in Kenya.

iii. H_{03}: There is no relationship between inspection procedures and performance of dairy producer co-operative societies in Kenya.

1.5 Significance of the Study

In Kenya, many co-operative societies have not yet effectively embraced procurement processes because they have not put measures in place on how to manage factors affecting effective implementation of procurement processes in dairy co-operative societies (Smith, 2020). Thus, this study provides a systematic and comprehensive insight into the state of procurement processes in dairy co-operative societies in Kenya.

Due to the scarcity of previous research on co-operative procurement and its scale and significance, it is important to shed greater light on how expenditure in dairy co-operative societies can be minimized through effective implementation of procurement processes, thereby policy makers from various cooperative societies could benefit from this body of knowledge.

The study is of great significance to board members and management staff in all dairy co-operative societies in Kenya since the study findings will assist in formulation and implementation of guidelines and framework for supporting effective implementation of internal procurement processes. The study is of great significance to all other co-operative societies in Kenya since study recommendations will assist institutions' management to overcome the major challenges that hinder effective implementation of internal procurement processes in training institutions. The study could be of importance to procurement professionals in various industrial sectors since it would add a body of knowledge to theory and practice of effective implementation of procurement processes.

The study could be of great importance to the Kenya governments' big four agenda one of food security since it would add more insights to the already existing pool of information, by suggesting better ways of maximizing resources and minimizing wastage hence promoting better livelihoods. It also contributes to Kenya vision 2030's economic and macro pillar since obtained findings will provide guidelines on how organizations can effectively implement procurement processes hence leading to proper utilization of institutional financial resources. The findings of this study are expected to be of significance to various scholars, students and researchers who might be involved in procurement research activities since the documented report would provide ready reference material that could equip the learners with more knowledge and skills on issues relating to effects of internal procurement processes on performance of dairy producer co-operative societies in Kenya.

1.6 Scope of the Study

The study sought to examine the effect of internal procurement processes on the performance of dairy producer co-operative societies in Kenya. In particular, it examined the effect of requisition procedures, ordering procedures and inspection procedures on the performance of dairy producer co-operative societies in Kenya. In this study, the area of focus was in the production, procurement and liaison, processing, marketing and financial sectors of the dairy co-operative societies. The study was undertaken at dairy producer co-operative societies involved in processing in Kenya. This is because the dairy co-operatives that have ventured in processing activities are more diversified hence have bigger employee base providing services to members and therefore suitable for this study. The study involved all the procurement staff in dairy producer co-operative societies dealing with processing in Kenya. Aspects of performance that were under investigation by the study included reduction of procurement spend, transparency and accountability, quality of procured goods/services adherence to procurement processes. The study was undertaken within duration of three months.

1.7 Limitations of the Study

The difficulties experienced during the period of this study included: the questionnaires not being filled to completion by the respondents; misunderstanding of some issues; inadequate responses; absence of some respondents on official duties thereby not filling questionnaires. However, this was alleviated through constant communication with the respondents and reiteration on the importance of the questionnaires that were administered to them.

The confidential code of organizations also prohibited some of the respondents from answering some of the questions as it was considered unlawful to reveal secret company information to outsiders. Also, there was lack of available or reliable data which led to limiting of the scope of analysis of data gathered a little bit therefore, future research studies should be conducted by using a differently designed method of gathering data. Shortage of prior research studies on the topic also presented a bottleneck in the availability of a reliable body of knowledge, which also prompts need for further research studies. Additionally, since the data gathered was self-reported, it could not be independently verified hence prompting the researcher to take the responses at face value.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains an overview of related studies done by other scholars on the topic of internal procurement processes and performance of dairy producer co-operative societies in Kenya. The literature covers theoretical review, empirical review, conceptual frame work of the study, and research gaps.

2.2 Theoretical Framework

Processes in the domain of procurement and supply chain management are best understood by applying multiple theoretical perspectives drawn from economics (agency theory and transaction cost analysis), sociology (social exchange theory, resource dependency theory, organizational decision-making theory) or strategic management (resource-based view) (Sanderson & Lonsdale et al, 2015). Also, there exists number of models that analyzes the adoption and application of procurement processes. The theories and models are used to identify important aspects of procurement.

2.2.1 Resource-Based View

This theory was developed by Wernerfelt in 1984 and it argues that performance is a result of firm-specific resources and capabilities. The theory is of the view that successful firms will find their future competitiveness on the development of distinctive and unique capabilities. Therefore, when requisite resources are available, organizations are able to innovate and creatively deal with arising challenges in the market (Bartai & Kimutai, 2018). The supporters of this view argue that organizations should look inside the company to find the sources of competitive advantage instead of looking at competitive environment for it. It proposes that resources of the organization go beyond finances and materials to encompass methods and processes. It refers to firm's internal value creation through its resources and capabilities (Ovidijus, 2013). Value can be created from effective management of internal procurement processes such as requisition, ordering and inspection through learning mechanisms, routines and experience. According to resource-based view, it is much more feasible to exploit external opportunities using existing resources in a new way rather than trying to acquire new skills for each different opportunity.

In resource-based view model, resources are given the major role in helping companies to achieve higher organizational performance. The following model explains resource-based view and emphasizes the key points of it.
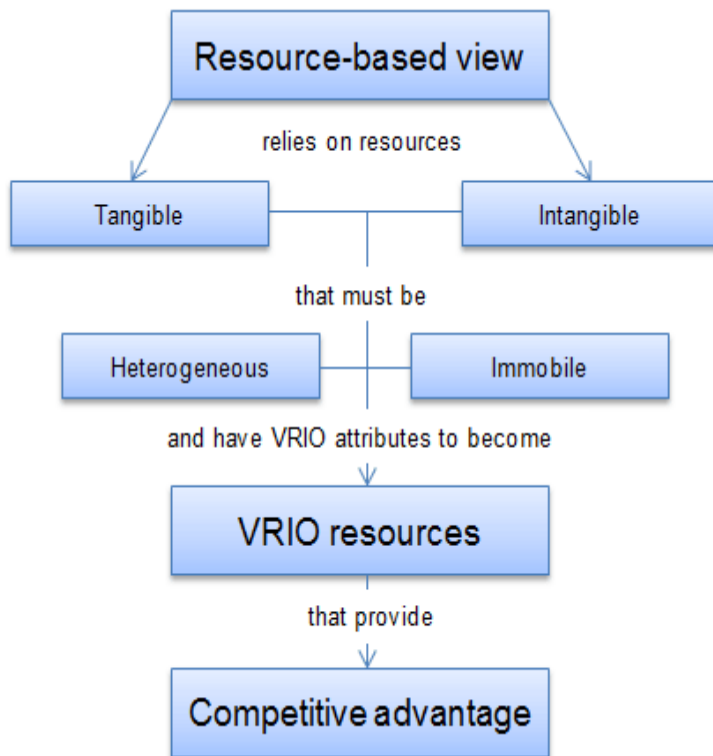
Figure 2.1: Resource based view model, adapted from Ovidijus (2013)

The resource-based view is a model that sees resources as key to superior firm performance. If a resource exhibits VRIO (valuable, rare, costly to imitate, organized to capture value) attributes, the resource enables the firm to gain and sustain organizational performance (Ovidijus, 2013). From the model, physical resources or tangible assets can easily be bought in the market hence are readily available and can be acquired within a short period of time. On the other hand, intangible assets are everything else that has no physical presence but can still be owned by the company. Skills, capabilities, processes, brand reputation, trademarks, intellectual property are all intangible resources. Unlike physical resources, processes, skills and capabilities are built over a long time. Intangible resources usually stay within a company and are the main source of sustainable organizational performance (Ovidijus, 2013). The two critical assumptions of resource-based theory are that resources must also be heterogeneous and immobile. Also, resource based view theory has been criticized as lacking substantial managerial implications as it seems to tell managers to develop and obtain VRIO resources and develop an appropriate organization, but it is silent on how this should be done (Priem & Butler, 2001).

However, Barney (2005) argues that this critique should not be leveled at the resource-based view as it is a theory aspiring to explain sustainable organizational performance and, as such, was never intended to provide managerial prescriptions.

The resource-based view is beneficial to dairy co-operatives since it offers a good framework and background to gain sustained performance in procurement processes within the organization. The theory was used because this study views requisition processes as intangible assets within dairy co-operative societies that can be perfected overtime for sustainable procurement performance. This study also adopts the theory as a way of maximizing the use of available resources to promote efficiency and effectiveness in procurement and therefore deliver competitive advantage to dairy producer co-operatives. In this study, resource-based view was used to establish the effect of requisition procedures on performance of dairy producer co-operative societies in Kenya.

2.2.2 Transaction Cost Theory

Transaction cost theory was proposed by Oliver Williamson in 1979. The theory expressed that the focus of the firm is to minimize the total of transaction and production costs (Williamson, 1981). It argues that institutions, understood as the set of rules in a society, are key in the determination of transaction costs. In this sense, institutions that facilitate low transaction costs boost economic growth. Williamson has defined transaction costs broadly as the costs of running the economic system of organizations. The four concepts of transaction costs derived from the theory include: measurement, enforcement, ideological attitudes and perceptions, and the size of the market (North, 1992). North defined measurement as the calculation of the value of all aspects of the good or service involved in the transaction. Enforcement was defined as the need for an unbiased third party to ensure that neither party involved in the transaction reneges on their part of the deal. Ideological attitudes and perceptions encapsulate each individual's set of values, which influences their interpretation of the world while market size affects the partiality or impartiality of transactions (North, 1992).

From the theory, it is evident that the optimum organizational structure is one that achieves economic efficiency by minimizing the costs of exchange (Young, 2013). It suggests that each type of organizational transaction produces coordination costs of monitoring, controlling, and managing transactions.

Such costs are to be distinguished from production costs and that a decision-maker can make a choice to use an organizational structure or source from the market by comparing transaction costs with internal production costs. Thus, cost is the primary determinant of such a decision (Young, 2013).

The theory postulates that transaction costs will always occur when dealing with external party: either through search and information costs by finding a supplier, bargaining and decision costs by procuring the component/service or policing and enforcement costs to monitor quality (Kaplan, 2012). Applying transaction cost economics in procurement processes such as ordering and inspection processes emphasizes the aspects of efficiency and cost focus for better organizational performance. The way in which an organization is organized can determine its control over transactions, and hence costs (Kaplan, 2012). To this end, efficient governance and exchange relationships for ordering and inspection transactions contribute greatly to sustained organizational performance.

This theory was relevant as it intended to fill the reduction of costs gap for maximum profit realization in dairy co-operative societies. Therefore, reducing cost of internal procurement transactions within dairy co-operatives can indeed boost their performance. It is in the interests of management to internalize transactions as much as possible, to remove these costs and the resulting risks and uncertainties about prices and quality. According to Kaplan (2012) directors, managers or procurement team could have opportunistic behavior of how an individual will personally gain from a transaction leading to dire consequences on financing of dairy cooperative societies. Additionally, there is buildup of governance costs including internal controls to monitor performance. All this, is geared towards minimizing costs and hence better performance of co-operatives. In this study, transaction cost of economics theory was used to establish the effect of ordering and inspection procedures on the performance of dairy producer co-operative societies in Kenya.

2.2.3 Economic Order Quantity (EOQ) Model

The economic order quantity model is a production-scheduling model that was developed in 1913 by Ford W. Harris and has been refined overtime (R. H. Wilson, a consultant who applied it extensively, and K. Andler are given credit for their in-depth analysis) (Paul, 2020). EOQ is the ideal order quantity a company should purchase to minimize inventory costs such as holding costs, shortage costs, and order costs (Paul, 2020).

The EOQ is a model that is used to calculate the optimal quantity that can be purchased or produced to minimize the cost of both the carrying inventory and the processing of purchase orders or production setups (Paul, 2020). The following is the model's formula as explained by R.H Wilson:

$$Q = \frac{\sqrt{2DS}}{H}$$

Where Q is optimal order quantity; D is units of annual demand; S is cost incurred to place a single order or setup and H is carrying cost per unit. This formula is derived from the following cost function: Total cost = purchase cost + ordering cost + holding cost.

The goal of the EOQ formula is to identify the optimal number of product units to order. If achieved, a company can minimize its costs for buying, delivery, and storing units (Paul, 2020). The EOQ formula can be modified to determine different production levels or order intervals, and corporations with large supply chains and high variable costs use an algorithm in their computer software to determine EOQ (Paul, 2020). A larger order-quantity reduces ordering frequency, and, hence ordering cost/ month, but requires holding a larger average inventory, which increases storage (holding) cost/month. On the other hand, a smaller order-quantity reduces average inventory but requires more frequent ordering and higher ordering cost/month (Njeru, 2015). If a dairy co-operative is constantly placing small orders to maintain a specific inventory level, the ordering costs are higher hence costly procurement process. In this study, EOQ model takes into account the timing of reordering, the cost incurred to place an order, and the cost to store merchandise for better procurement performance.

2.2.4 Just in Time (JIT) Model

Also known as just-in-time production or the Toyota Production System (TPS), JIT was first developed and perfected within the Toyota manufacturing plants by Taiichi Ohno. It originally referred to the production of goods to meet customer demand exactly, in time, quality and quantity, whether the `customer' is the final purchaser of the product or another process further along the production line. It has now come to mean producing with minimum waste (Ifm, 2018). It has also been described as an approach with the aim of producing the right part in the right place at the right time. JIT is seen as a more cost-efficient method of maintaining stock levels. Its purpose is to minimize the amount of goods you hold at any one time without compromising the production volumes.

This has numerous advantages such as less space needed, with a faster turnaround of stock; we don't need as much warehouse or storage space to store goods. Less stock levels also means lesser investment (Vivek, 2020).

JIT aims at producing the exact quantities of items for the exact demand by maintaining just the exact amount of inventory both on the raw material side as well as on the finished good side. To achieve this kind of lean management, it requires extremely careful planning to manage the entire supply chain including raw material procurement to finished good delivery to the end customer.

According to Spencer (2005), JIT is adaptable to any productive system: a transportation system; an administrative system; or a manufacturing system. He developed a functional model comprising three components which they perceived are needed to sustain the goal of elimination of waste through a process of continuous improvement They included respect of the people within the system; the execution system; the planning process prerequisites for continuous improvements to the system. All three components must be balanced; fairly equal commitment or proportioning is needed if a JIT implementation is to be successful (Vivek, 2020).

One of the limitations of the model is that JIT production can be very sensitive to any kind of error. Since bare minimum inventory levels are maintained, there is no room for any kind of error (Vivek, 2020). However, an important strength of the model is that in JIT, immense focus is on quality of the final product and organizations work to achieve "first time right" for all goods. JIT is a philosophy which proposes to achieve the maximum with minimum inputs. This can be achieved only if all the parties involved in the entire ecosystem of supply chain will be committed to achieve this and work cohesively with great amount of coordination. JIT will need very careful planning and timely communication in the chain.

In this study, JIT model was used to explain concept of performance in dairy producer co-operative societies in Kenya. Organizational performance is the actual output or outcomes of an institution and its intended outputs or goals and objectives (Upadhaya, Munir, & Blount, 2014). From the model, organizational performance can be measured through reduction in cost, quality of goods/services delivered, productivity, lead time (Mchopa et al, 2014).

The indicators of performance of an organization can be financial targets attained, satisfaction of labour force and organization's effectiveness and efficiency. According Upadhaya (2014), the indicators of performance should be measured based on financial elements such as growth of sales, profit, return on investment, business performance and organization effectiveness.

He emphasized that performance of an organization could be measured by observing quality of products and service, performance in the market, customers' satisfaction, innovation of services, and labour force. Organizational performance can also be measured by productivity, cost saved, value of services and goods distributed on time, and client contentment (Leiyan, 2016).

2.3 Empirical Literature Review

The following sections describe the reviewed empirical studies that exist on effects of internal procurement processes on the performance of dairy producer co-operative societies in Kenya.

2.3.1 Requisition Procedures and Performance of Dairy Co-operatives

Purchase requisitions are used when an employee needs to make a purchase or an order request on behalf of their co-operative. It is a document that is used to inform department managers or the purchasing officer of the decision so that the purchasing department can start the purchasing process (Hao, 2018). The finance team will also use this document to coordinate reporting procedures with the accounting department as well. It is important to stress the role that procurement and purchasing functions play within co-operatives as they are critical in managing costs. These departments establish buying policies and procedures for co-operatives. It's their job to ensure that purchases made throughout the co-operative are cost-effective and approved by the appropriate parties. Purchase requisitions help co-operatives to manage costs by giving them more control over employee spending and have a higher likelihood of receiving discounts on goods and services because there is greater visibility into purchasing (Murphy, 2017).

Liu and Xie (2016) studied on emergency supplies requisition negotiation principle of government in disasters. The study was a case study of the Chinese national or local government and the general objective of the study was to examine the negotiation process on procurement requisition and propose a negotiation principle for the staff.

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The study employed elaboratory and descriptive research design and used the quota sampling technique to obtain a sample 408 respondents. Data was collected through oral interviews and questionnaires. The study found out that the procurement requisition price for emergency supplies were too low and proposed a principle of emergency supplies requisition negotiation of public officials in disasters. First, they should ensure the requisition price is not too low. Second, they would widen the difference between the high price and low price.

Third, it is best for them to follow the principle of "ascending negotiation and descending choice" while selecting multiple suppliers to negotiate (Liu & Xie, 2016).

Salcedo (2016) focused on methodology for fast processing of purchase Requisitions, elimination of backlog and improvement of customer service in procurement organizations. The objective of the study was to develop a new methodology to process purchase requisitions in a fast manner, eliminate backlog and improve customer service in procurement organizations. The study employed procurement key performance indicators and process engineering techniques and found out that under a large backlog of purchase requests scenario, customer service decreases dramatically and the procurement department becomes more of a customer complaints management department instead (Salcedo, 2016) .

Uba (2013) did a study on E-Procurement and Performance of Service Organizations in Uganda, whose general objective was establishing the relationship between E-procurement on the performance of selected service organizations in Uganda. The study found out that there is a significant relationship between E-procurement and performance of the organizations, where lack of e-requisition system affected performance of these organizations the most (Uba, 2013).

Bartai and Kimutai (2018) studied on role of e-requisition on procurement performance of north rift county assemblies in Kenya. The general objective of their study was to evaluate the role of e-requisition on procurement performance of North Rift County Assemblies in Kenya. They used descriptive cross-sectional survey as research design and a sample size of 215 respondents. They also used questionnaires for data collection and analyzed their data through descriptive statistical tools. They concluded that there was a significant role of e-requisition on procurement performance and procurement performance of North Rift County Assemblies in Kenya (Bartai & Kimutai, 2018).

2.3.2 Ordering Procedures and Performance of Co-operative Societies

Purchase orders (POs) play an important role in controlling co-operative purchases. A purchase order is the official confirmation of an order. It is a document sent from a purchaser to a vendor or supplier that authorizes a purchase and generally contains the name of the co-operative purchasing goods or services, date, description and quantity of goods and services, price, payment information, invoice address and a purchase order number (Murphy, 2017).

A study done by Aurino, Susanto and Azkia (2016) on Process Analysis on Order Processing Function to Reduce Order Processing Time: Indonesian Context in Indonesia, revealed that root causes of order processing delay are other job priorities by Regional Sales Manager (RSM), different perspective on inventory level, limited distributors' capability, and limited budget of Sales and Operations Division. The study was a case study whose general objective was to find the root cause of delayed order processing in PT X (global products processor) and adopted DMAIC (Define, Measure, Analyze, Improve, and Control) of Six Sigma framework as research design with a sample size of 248. Data was collected through interviews and processed and analyzed through Microsoft Excel (Aurino, Susanto, & Azkia, 2016).

Turunen (2018) carried out a study on purchase order process quality improvement in service business function in Finnish branch. The major finding was that the target organization's employees were not aware of the importance of the purchase order process and they never received training and tool instructions were unclear, therefore employees were not motivated to raise purchase orders and saw it just as a burden (Turunen, 2018).

Charturvedi and Chakrabarti (2015) study on internal purchase process, a study for setting improvement target revealed that a shorter lead time in purchase cycle can lead to competitive advantage and just in time purchases, leading to low inventory requirements at operation locations. The findings of the study also revealed that the purchase cycle process has two parts, an internal process - purchase request to purchase order release and an external process - supply of material by vendor(s). It also found out that there are possibilities of delays during the course of the internal process of the purchase cycle and hence needs improvement (Chaturvedi & Chakrabarti, 2015).

Further, Nantege (2011) conducted a study on procurement management and financial performance of banks in Uganda: Case study – Fina Bank Uganda Limited. The general objective of the study was to look at the effect of procurement management on the financial performance of banks in Uganda. Data was collected using purposive sampling method and was analyzed quantitatively and qualitatively. The findings of the study revealed that procurement planning, ordering controls and monitoring positively affected the performance of the bank (Nantege, 2011).

Additionally, Chepkurui and Chepkwony (2017) carried out a study on e-ordering and e-informing on supply chain performance in Kenyan state corporations in Nairobi County where the general objective of the study was to determine the effect of E-ordering and E-informing on supply chain performance. They employed explanatory research from 112 Kenyan state corporations while using descriptive statistical tools for data analysis. The findings of the study revealed that e-ordering and e-informing, which are elements of e-procurement dimensions increases supply chain performance. It also indicated need for firms to make use of e-ordering and e-informing in the procurement process (Chepkurui & Chepkwony, 2017).

2.3.3 Inspection Procedures and Performance of Co-operatives

Inspection involves critical appraisal involving examination, measurement, testing, gauging and comparison of materials or items. An inspection determines if the material or item is in proper quantity and condition, and if it conforms to the applicable or specified requirements. It involves receiving inspection, in-process inspection and final inspection (Business.Dictionary, 2019). Inspection of goods and services delivered in cooperatives ensures cooperatives can rely on good quality of the supplies thereby minimizing losses on defective goods. The Inspection and Acceptance Committee plays a central role in the procurement process by ensuring that the goods, services or works completed are of the right quality, quantity and are delivered at the right time. Without the Committee's report, no payment is supposed to be made, even for the works (UON, 2018).

Wang, Dohi, and Wen (2016) conducted a study on coordinated procurement/inspection and production model under inspection errors. The study was carried out in Japan with the general objective of investigating the acquisition of input materials, material inspection and production planning. The study used a cross-sectional survey design to carry out the research.

The findings revealed that the boundaries, conditions and properties for the optimal production run time are obtained under an optimal inspection policy when the input material quality level is fixed (Wang, Dohi, & Wen, 2016). The study findings also revealed that firms need to find an optimal purchase lot size, input quality level and the associated inspection policy that minimize the total cost per item including the order cost, materials purchase cost, setup cost, inventory holding cost, and the quality-related cost.

Genta, Galetto and Franceschini (2020) study was on Inspection procedures in manufacturing processes: recent studies and research perspectives. They concluded that most of the studies researched on revealed that quality inspections, whether online or offline, should be performed in almost every production system to prevent nonconforming products from reaching final customers or end users. The study employed bibliometric analysis that allowed highlighting the research areas (Genta, Galetto, & Franceschini, 2020).

Ramzan, Wook and Sarkar (2016) did a review paper on offline inspection of finished and semi-finished products and emerging research directions. The objective of this study was to provide a literature review that identifies different models and methodologies, developed for offline inspection under different manufacturing and inspection conditions. The study favoured a multi-stage manufacturing system for quality control with specific focus on offline inspection (Ramzan, Wook, & Sarkar, 2016).

A study done by Hsu and Chan (2005) to verify the effect on visual inspection performance as the number of fault types increases and to investigate the main personality traits of a competent inspector using factor analysis revealed that a significant effect was found when the number of fault types increased. Four factors obtained by factor analysis demonstrated that the personality of a competent inspector includes the following characteristics: stability, enthusiasm, sensitivity, and suspicion (Hsu & Chan, 2005).

Mazibuko (2018) studied on analysis of the administration of procurement practices in the South African public sector. The general objective of the study was to analyze the administration of procurement practices, explore the extent, size, nature, the manifestation of unethical procurement practices and to propose a public procurement framework.

He used exploratory research design with a focus on a multiple case study of seven randomly selected national departments categorized under government guide on clusters "the social protection, community and human development government cluster". The findings of the study revealed that despite government codes of conduct mechanisms and policies developed, there seems to be a manifestation of unethical procurement practices ranging inefficient requisitions to inspection of materials for quality (Mazibuko, 2018).

Wanjugu, Kiarie, and Marendi (2018) did a study on effects of inspection of purchases on procurement performance in level four public hospitals in Nyeri County. The studies' general objective was to establish the effects of inspection of purchases on procurement performance in level four public hospitals in Nyeri County. They adopted descriptive research design with accessible population of 47 and used questionnaires to collect the data required and SPSS to analyze the data. The findings of the study revealed that the quantity inspection of purchases, verification of terms of contract, verification of purchase order and quality inspection of purchases affected procurement performance (Wanjugu, Kiarie, & Marendi, 2018).

2.3.4 Performance of Co-operatives

Co-operative performance is the measure of identifying the extent to which the procurement function in co-operative societies is able to reach the objectives and goals with minimum costs (Van Weele, 2002). Van Weele (2002) noted that there are two main aspects of the procurement performance: effectiveness and efficiency. Performance provides the basis for an organization to assess how well it is progressing towards its predetermined objectives, identifies areas of strengths and weaknesses and decides on future initiatives with the goal of how to initiate performance improvements. For any organization to change its focus and become more competitive, performance is a key driver to improving quality of services while its absence or use of inappropriate means can act as a barrier to change and may lead to deterioration of the procuring function (Kakwezi & Nyeko, 2010). According to Kakwezi and Nyeko (2010), Organizations which do not have performance means in their processes, procedures, and plans experience lower performance and higher customer dissatisfaction and employee turnover (Weele, 2005). Measuring the performance of the procurement function yields benefits to organizations such as cost reduction, enhanced profitability, assured supplies, quality improvements and competitive advantage (Kakwezi & Nyeko, 2010).

2.4 Critique of Literature Related to the Study

From the theoretical and empirical literature, it is evident that existing literature on effects of internal procurement processes is not substantial in African countries and especially in Kenya. From the review, it is clear that majority of the studies originate from the developed countries particularly from European countries, Asia and America. This is demonstrated by Ramzan, Wook and Sarkar (2016), Turunen (2018), Salcedo (2016) and Murphy (2017) studies among others.

2.4.1 Requisition Procedures

A study by Salcedo (2016) indicates that under a large backlog of purchase requests scenario, customer service decreases dramatically and this affects the performance of procurement department negatively. The study however, focused on procurement organizations generally and did not specialize on a particular sector. There lacks a specific study in Kenya highlighting effects of procurement processes on performance of cooperative societies and how they should maximize on purchase requisitions for better procurement performance.

2.4.2 Ordering Procedures

Study by Charturvedi and Chakrabarti (2015) found out that there are delays during the course of the internal process of the purchase cycle and hence needs improvement. However, the study did not indicate how the purchase order processes impacts procurement performance in organizations and suggest recommendations aimed at improving purchase order techniques for better procurement performance.

2.4.3 Inspection Procedures

A study by Hsu and Chan (2005) to investigate the main personality traits of a competent inspector revealed that a significant effect was found when the number of fault types increased. The study however, failed to highlight key effects of inspection on performance of procurement function in organizations. A study by Genta, Galetto and Franceschini (2020) concluded that most of the studies researched on revealed that quality inspections, whether online or offline, should be performed in almost every production system. This highlights the importance of inspection process in the performance of procurement function. The studies failed to explain how inspection process impacts procurement performance in organizations. The empirical review indicates that there is little awareness on the effects of internal procurement processes in organizations particularly in African context.

In Kenya, no effort has been made to investigate effects of procurement processes in co-operative societies. Given the important role procurement processes play in facilitating better performance in organizations, this study addressed the major issues as a measure of establishing the effects of internal procurement processes on performance of dairy producer co-operative societies in Kenya.

2.5 Research Gaps

The number of studies that have examined procurement processes in cooperative societies remains very small, even though procurement is one of the most important functions in organizations. For instance, studies by Aurino, Susanto and Azkia (2016), Liu and Xie (2016) and Uba (2013) stressed on effects of procurement processes and proposed counter measures to improve their performance. However, the studies were carried out in developed countries and as such failed to address effects of internal procurement processes in developing nations.

Wang, Dohi, and Wen (2016) recommended on integration of procurement processes in firms but failed to provide tangible effects of procurement processes on performance of firms. Bartai and Kimutai (2018) tried to explain the role of procurement processes in procurement performance of North Rift County Assemblies in Kenya but did not outline the significance of the processes on performance. Chepkurui and chepkwony (2017) indicated need for firms to make use of e-ordering and e-informing in the procurement process. However, the study did not highlight the key effects of procurement processes. The studies have not specifically addressed the key impacts of procurement on performance of firms, thereby creating a big knowledge gap on effects of internal procurement processes on performance of dairy producer co-operative societies.

2.6 Conceptual Framework

Conceptual framework in this study showed the relationship between the independent variables and the dependent variable. Figure 2.2 below illustrates that the independent variables of this study were requisition procedures, ordering procedures and inspection procedures. Literature indicated that proper requisition procedures, efficient ordering process and procedural inspection of procured goods can result to better dairy co-operative performance.

Requisition Procedures

- Requisition planning and implementation
- Accuracy in use of requisitions
- Approval rate
- Requisition monitoring
- Requisition management practices
- Level of training
- Technology application

Ordering Procedures

- Order quantity
- Just in time ordering
- Ordering costs
- Level of compliance with ordering procedures
- Payment of suppliers

Inspection Procedures
- Level of expertise
- Response time
- Error rate
- Application of inspection procedures

Independent Variables

Performance of Dairy Producer Co-operative Societies in Kenya.

- Reduction of procurement spend
- Transparency and accountability
- Quality of procured goods/services
- Adherence to procurement processes

Dependent Variable

Figure 2.2: Conceptual Framework

2.6.1 Requisition Procedures

In this study, purchase requisition is used by a department to instruct the purchasing office to acquire needed goods and services. When departmental managers are allowed to place orders directly with the suppliers, there is a possibility of fraud. To prevent fraud, the purchasing team is required to place orders with the suppliers and to manage purchase requisition workflow. A purchase requisition process within the procurement department ensures that fraud is prevented, and the cooperatives get the value for their money. These requisition procedures can therefore be measured in terms of the level of planning for requisitions, the rate at which requisitions are approved in organizations, the level of monitoring of the open requisitions, the level of staff training on importance and use of requisitions and level of technology used in placing of purchase requests.

2.6.2 Ordering Procedures

Ordering procedures involves requesting for deliveries from suppliers through purchase orders. A purchase order is the official confirmation that an order has been placed and is sent from the cooperative to the vendor or supplier. Ordering is measured by level of application of economic order quantity principle for ordering costs minimization, the just in time principle for timely ordering process and level of compliance with ordering procedures in place.

2.6.3 Inspection Procedures

Inspection procedures involve the steps taken to ensure that the goods and services purchased conform to their set standards. Inspection procedures are measured in terms of the level of expertise of inspection officers for professionalism, the level of response time from the inspection team for alleviation of delays, the rate of errors experienced from each inspection procedure by inspection team and the level of compliance in the application of inspection procedures. Co-operative performance is the dependent variable which can be measured through level of reduction of procurement spending, level of transparency and accountability in procurement functions in the organization, level of quality of goods and services procured by the organization and level of compliance with the procurement processes.
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<div align="center">**CHAPTER THREE**</div>

<div align="center">**RESEARCH METHODOLOGY**</div>

3.1 Introduction

This chapter describes the methodology and procedures that were used to carry out the study. It involves study design that was employed in the study; population, sampling design, research instruments, data collection procedures and analysis procedures used in the study.

3.2. Research Design

Research design can be defined as a framework of methods and techniques chosen by a researcher to combine various components of research in a reasonably logical manner so that the research problem is efficiently handled. It provides insights about "how" to conduct research using a particular methodology in order to gather the required information (Bhat, 2019). The various research design types include experimental research design, descriptive research design, correlational research design, diagnostic research design and explanatory research design (Umar, 2013).

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. It also discovers associations or relationships between or among selected variables (Dulock, 1993). 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.

3.3 Population of the Study

Research Population can generally be defined as a large collection of individuals or objects that is the main focus of a scientific query (Kenton, 2019).It is the entire set of units for which the study data are to be used to make inferences (Kothari, 2014)There are two types of population in a research: target population and accessible population where, target population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions while accessible population is a subset of the target population, also known as the study population (Kothari, 2014). It is from the accessible population that samples are drawn (Kothari, 2014).

In this study, the target population 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 the dairy producer co-operative societies involved in both production and Processing of dairy products in Kenya. There are 72 (See appendix V) dairy producer co-operative societies involved in both production and processing of dairy products in Kenya (KDB, 2020). The targeted respondents comprised procurement staff from each of the producer cooperatives involved in both production and processing of dairy products in Kenya. The study population thus comprises all the 72 producer co-operatives involved in production and processing of dairy products in Kenya. These were of interest to the study since they play a major role in production, processing and marketing of milk from farmers hence spend huge amounts of funds in procurement functions. The procurement staff was targeted because they are the ones involved in the execution of key procurement management decisions and hence have technical knowledge and skills on effects of internal procurement processes on performance of dairy producer co-operatives in Kenya.

3.4 Sample and Sampling Technique

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population (Mugo, 2002). Sampling techniques are divided into two broad types: probability or random sampling and non-probability or non-random sampling. Probability sampling include simple random, stratified random, cluster, systematic and multi-stage sampling while non-probability sampling types include purposive, convenience, snowball and quota sampling (Taherdoost, 2016).

From a study population of 72 dairy producer cooperative societies engaged in both production and processing in Kenya, census technique was applied. All the dairy producer cooperative societies in Kenya thus formed the unit of analysis, while the dairy producer co-operative societies engaged in both production and processing of dairy products in Kenya formed the unit of observation. Census method is the method of statistical enumeration where all members of the population are studied (Kothari, 2014). The researcher used census technique 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. Population Census is unique in that it provides the possibility of examining small and special population groups, and acquiring information on small geographic units (Njeru, 2015). The use of census technique is justified since data gathered using census contributes towards gathering of unbiased data representing all individuals' opinions in the study population on a study problem. The census approach is also justified since results obtained from a census are likely to be more accurate and reliable than results obtained from a population sample and thus census assists in generalization of research findings. Census provides a true representation of the population since there is no sampling error and more detailed information about the study problem within the population is likely to be gathered (Crossman, 2019).

3.5 Data Collection

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables a researcher to answer stated research questions, test hypotheses, and evaluate outcomes (Kothari, 2014). The study collected both primary and secondary data. Primary data presented the actual information that was used in this study. Data collection instruments refer to the tools used by researchers to actually collect data in the research process (IGI Global, 2020). A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents (McLeod, 2018). Questionnaire was the main instrument used to collect data from the respondents. They contained open-ended and closed-ended questions with the quantitative section of the instrument applying an ordinal scale format. Questionnaire was favoured because they let respondents provide much of their thinking on the research problem. Telephonic interview schedules were also used to compliment data from questionnaires. Primary data were collected through a semi structured questionnaire with open and closed-ended questions.

This research study found it advantageous to triangulate methods whenever feasible: the study used both emails and "drop and pick later" method to administer the questionnaires. Secondary data was collected through the review of both empirical and theoretical literature obtained from books, journals and on the internet on internal procurement processes and performance of dairy producer cooperative societies.

3.6 Pilot Study

A pilot study can be defined as a 'small study to test research protocols, data collection instruments, sample recruitment strategies, and other research techniques in preparation for a larger study (Hassan, Schattner, & Mazza, 2006). A pilot study was conducted on 15 respondents to test for the reliability and validity of the data collection instruments. The respondents were conveniently selected since statistical conditions are not necessary in the pilot study (Cooper & Schindler, 2014). This pretest was undertaken to test the reliability and validity of questionnaire. It was conducted to help in identification of errors in data collection instruments and make necessary adjustment in order to ensure valid and reliable data was collected.

3.6.1 Validity of Instruments

Validity means that a test or instrument is accurately measuring what it's supposed to. It is about the accuracy of a measure (Stephanie, 2016). High reliability is one indicator that a measurement or instrument is valid. If a method is not reliable, it probably isn't valid (Middleton, 2020). Construct and content validity were adopted where, content validity of the data collection instrument was determined through discussion with the various research experts in the university. The valuable comments, corrections, suggestions given by the research experts assisted in the validation of the instrument. Construct validity was tested through factor analysis (See appendix IV) where factors had factor loading values greater than 0.7 and hence the data were valid. Indicators or factors with factor loadings of 0.5 and above indicates validity and can be used for analysis (Raza, 2013).

3.6.2 Reliability of Instruments

Reliability refers to the degree to which an instrument yields consistent result (Li, 2016). Reliable data is one that can be depended on. Reliability refers to the extent that the instrument yields the same results over multiple trials (Tom, 2020). This study used internal consistency method to examine the reliability of the data collection instruments. Internal consistency is a

measure of reliability used to evaluate the degree to which different test items that probe the same construct produce similar results (Oladimeji, 2015). Cronbach's alpha (*a*) coefficient of reliability (Appendix IV) was used to test data collected for consistency and reliability. Cronbach's alpha was selected because it provides unbiased estimate of data for generalization (Tom, 2020). The general rule of thumb is that a Cronbach's alpha of .70 and above is good, .80 and above is better, and .90 and above is best (Tom, 2020). This indicates that the gathered data are reliable as they have a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population (Tom, 2020).

3.7 Data Collection Procedure

This process indicates how the researcher accessed and gathered information from the participants. The researcher sought a cover letter from the Co-operative University of Kenya which enabled the research to get permit from National Commission for Science Technology and Innovation (NACOSTI). An introduction letter was taken along to enable the administering of the questionnaire. The respondents were assured of confidentiality of their names and responses and that the responses would not be handled by any other person but rather was used purely for academic purposes.

3.8 Data Analysis and Presentation

The researcher checked all sections and questions in all questionnaires to ensure it was free from inconsistencies and incompleteness. This involved a scrutiny of the completed instruments in order to detect and reduce as much as possible the errors, incompleteness, misclassifications and gaps in the information obtained from the respondents eliminating any unusable data.

From the study, both quantitative and qualitative data was gathered through the use of the open-ended and close-ended questionnaires. Quantitative data was analyzed through the use of descriptive analysis method by calculating the percentages, mean, standard deviation and Variance. SPSS version 26 was used because it allowed the researcher to follow clear set of quantitative data analysis procedures leading to increased data validity and reliability and demonstrating the relationship between the research variables. 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:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \text{\euro}$$

Where:

β_0 = Constant

Y = Performance of dairy cooperatives

X_1 = Requisition Procedures

X_2 = Ordering Procedures

X_3 = Inspection Procedures

βi = Coefficients of regression for the independent variables Xi (for i = 1,2,3)

$\text{\euro}$ = Error Variable

Qualitative data from open-ended questions in the questionnaire and telephonic interview guide were analyzed through summary of the set of observations obtained from the respondents in frequency tables. Common set of observation was assigned numerical value and entered into the SPSS v26 software. The analyzed findings were presented in form of frequency tables, pie charts and bar charts.

3.9 Measurement of Variables

Each independent variable of the study was measured using the ordinal/Likert scale. 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 below:

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

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter describes data analysis, interpretation and presentation of the results and findings as collected from the respondents. The study investigated the effect of internal procurement processes on the performance of dairy producer co-operative societies in Kenya. The specific objectives of the study included the effect of requisition procedures on performance of dairy producer cooperative societies in Kenya, effect of ordering procedures on performance of dairy producer cooperative societies in Kenya and effect of inspection procedures on performance of dairy producer co-operative societies in Kenya. The chapter is divided into sections including response rate from the respondents, reliability techniques employed by the study, demographic data of the respondents, findings based on how each of the three objectives of the study affect performance of dairy producer co-operative societies in Kenya. Reliability analysis was carried out using Cronbach alpha which is a coefficient of reliability.

4.2 Response Rate

The study population consisted of 72 dairy co-operatives, from which data was collected. Questionnaires were administered to procurement staff in 72 dairy producer co-operative societies in Kenya. Out of the 72 individual respondents, questionnaires from 66 dairy producer co-operative societies were filled and returned. This represented a response rate of 91.7%. According to Abawi (2014), a response rate above 50% is satisfactory, while 70% is considered excellent. The rate of response is presented on table 4.1 below.

Table 4.1: Response Rate

	Sampled	Responded	Response Rate
High-Level Co-operatives	28	26	92.8%
Middle-Level Co-operatives	12	12	100.0%
Low-Level Co-operatives	32	28	87.5%
Total	72	66	91.7%

Source: Research data (2020)

4.3 Background Information

This sub-section presents general and personal information of the respondents who participated in the research study.

4.3.1 Level of Education of the Respondents

It was necessary for the study to establish the level of education of the participants so as to determine whether they possessed the relevant skills and knowledge pertaining procurement processes and functions or not. As shown in figure 4.1, majority (65.2%) had college level education, 24.2% had university level education, 3.0% had post graduate level education, 4.5% had secondary level education and 3.1% had professional qualifications. These findings on level of education implied that most of the respondents were qualified to understand the nature of the research problem. During research process, respondents with technical knowledge on the study problem help in gathering reliable and accurate data on the problem under study (Connelly, Gayle, & Lambert, 2016).

This signified that most of the organization employees were qualified professionals with technical knowledge and skills on the study problem and thus provided the study with reliable information on effects of internal procurement processes on the performance of dairy producer co-operative societies in Kenya.
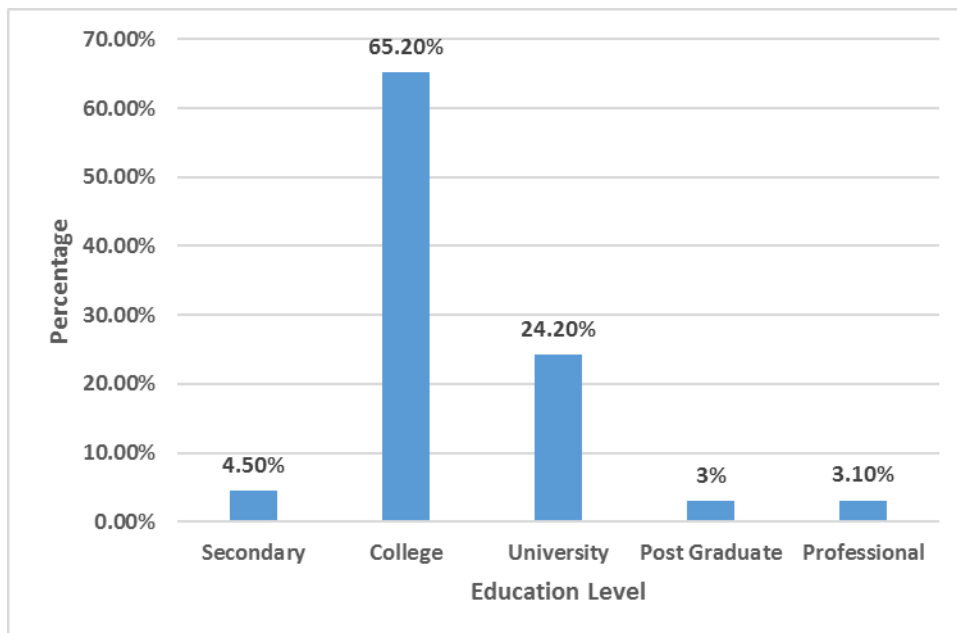
Figure 4.1: Level of Education of Respondents

4.3.2 Respondents' Working Experience

The study established the working experience of the respondents so as to determine the extent to which their responses could be relied on, in drawing conclusions on the study problem by using their work experience. From the findings of the study as shown in table 4.2, 20.1% reported to have a working experience of less than 5 years, 48.7% had an experience of 6-10 years, 16.2 % had a working experience of 11-15 years and 14.9% had a working experience of 16 years and above. These findings reveal that 50% of the respondents had worked in dairy producer co-operative societies for a long time, which meant that they were very familiar with the technical issues on effects of internal procurement processes on the performance of dairy producer co-operative societies in Kenya.   Respondents with a long working experience are well suited in providing reliable information on the research problem as they have enough technical experience about the problem under investigation (Connelly, Gayle, & Lambert, 2016).

Table 4.2: Respondent's Work Experience

Work Experience	Frequency	Percentage
Less than 5 Years	33	20.1
6 – 10 Years	79	48.1
11 – 15 Years	27	16.5
Above 15 Years	25	15.2
Total	164	100.0

4.3.3 Respondents' Working Departments

The study also established the various working departments of the respondents. This was done in order to ascertain whether the respondents were from the key departments in the organization that were concerned with the execution of procurement management functions. As indicated on figure 4.2 below, majority (70.1%) of the respondents were from the procurement department, 17.1% were from administration department and 12.8% were from the finance department. The findings here showed that all the respondents were directly involved in the execution of procurement functions which helped the study in collecting reliable data on the effects of internal procurement processes on the performance of dairy producer co-operative societies in Kenya.
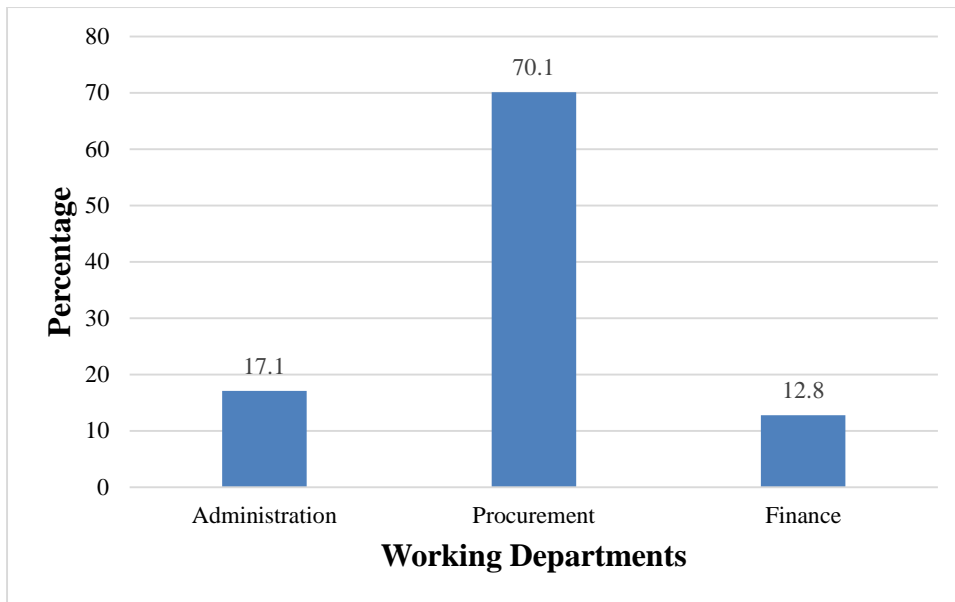
Figure 4.2: Respondents' Working Departments

4.3.4 Respondents' Rank in the Organization

The study also sought to have knowledge on the management level of the respondents in the organization. This was necessary so as to establish the magnitude of the respondents' involvement in procurement processes in the firm. The findings presented in the figure below revealed that majority (52.4%) of the respondents were middle level staff in procurement, 36.6% were lower level procurement staff and 11% were top level procurement management staff.
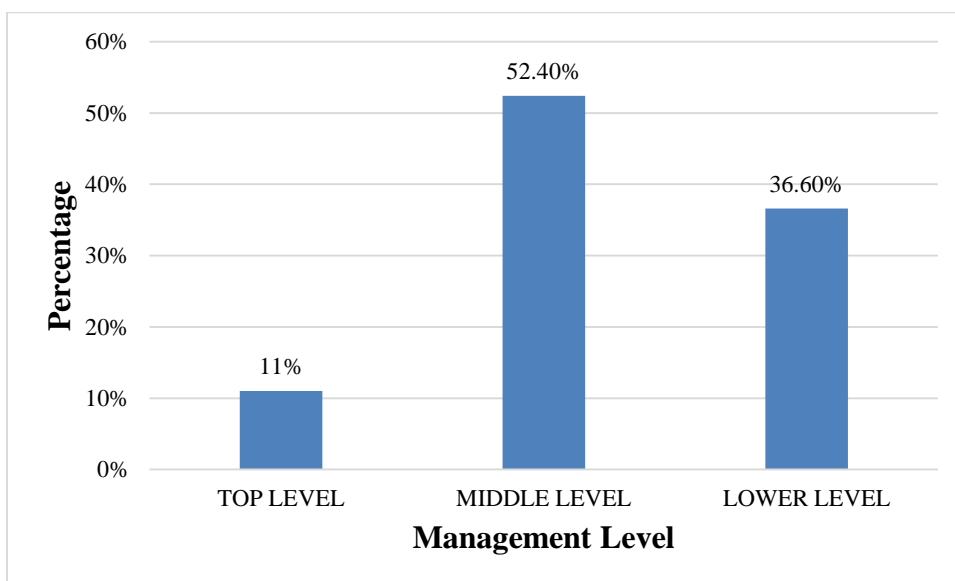
Figure 4.3: Respondents' Rank in the Organization

4.4 Requisition Procedures

4.4.1 Descriptive Statistics

A requisition refers to the process of formally requesting a service or item, typically using a purchase requisition form or other standardized document. The requisition process is a standardized way of keeping track of and accounting for all requisitions made within a business (Chen, 2020). A formalized requisition process improves efficiency and accountability across all points of contact. The respondents were asked different questions that are indicators of requisition procedures and their effects on performance. The category of data gathered was ordinal thus were presented in frequency tables and median was used as the suitable measure of central tendency. According to Chen (2020), the best way to determine central tendency on a set of ordinal data is to use the mode or median. The findings on the objective are presented in table 4.3.

One of the questions the respondents were asked was: what is the organization's level of preparation and implementation of procurement requisition plans. 3% of the respondents reported 0-20% level of preparation and implementation, 3%, reported 20-30% level of preparation and implementation, 7.6% reported 30-40% level of preparation and implementation, 29%, reported 40-50% level of preparation while 57.6% of respondents reported over 50% level of preparation and implementation. The modal class thus is the one 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.

The study also asked on the level of accuracy in the procurement requisitions used in the organization. From the findings, 3% of the respondents reported 0-20% level of accuracy, 4.5%, reported 20-30% level of accuracy, 12.1%, reported 30-40% level of accuracy, 34.8%, reported 40-50% level of accuracy while 45.5% reported over 50% level of accuracy. The modal class is of the respondents who reported over 50% level of accuracy. The median resulted to be 4 which signified that on average the firms had 40-50% level of accuracy in the procurement requisitions used. The study sought to find out the level of requisition approval in the organization annually and 0% of the respondents reported 0-20% level of approval, 6.1% reported 20-30% level of approval, 10.6% reported 30- 40% level of approval, 42.4% reported

40-50% level of approval while 40.9% reported over 50% level of approval. From these findings, the modal class is of the respondents who reported 40-50% level of approval. The median resulted to be 4 which signified that on average the organizations had 40-50% level of procurement requisition approval annually.

The respondents were also required to provide information on how often open requisitions are monitored in the organization and 0% of the respondents said they are never monitored, 3% reported 1-2 times, 3% reported 3-4 times, 39.4% reported 5-6 times, 54.5% indicated over 6 times annually. The modal class thus is of the respondents who reported over 6 times annually. The median of 5 was obtained which signified that on average the organizations monitors open requisitions over 6 times annually. Also, respondents were asked how often the organization adheres to the requisition management process and 3% of the respondents said they never, 3% reported 1 to 2 times annually, 7.6% reported 3-4 times, 34.8% reported 5 to 6 times while 51.5% said over 6 times annually.
The modal class turns out to be of the respondents in the class of over 6 times annually. The resulting median was 5 which signifies that on average the organization adhered to requisition management process more than six times annually.

Further, the study inquired on how often the employees are trained or mentored on requisition procedures and 0% of the respondents said never, 4.5% indicated 1-2 times, 25.8% indicated 3-4 times, 37.9% indicated 4-5 times and 31.8% indicated more than 6 times annually. Based on the findings, the modal class is of the respondents who reported the organization trains or mentors staff 1 to 2 times annually. The median outcome was 4 which signifies that on average the organizations performs training or mentorship activities for staff 1 to 2 times annually. Finally, the study inquired on how often the organizations apply technology in procurement requisitions. 0% of the respondents indicated never, 12.1% indicated 1-2 times, 13.6% reported 3 - 4 times, 25.8% said 5-6 times, and 48.5% over 6 times. From the results, the modal class is of the respondents whose firms never fail to prepare the required procurement progress reports. The median was found to be 5 which implies that on average the firms never fail to prepare the procurement progress reports as required.

Table 4.3: Requisition Procedures

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%	Median
What is the organization's level of preparation and implementation of procurement requisition plans	3% (2)	3% (2)	7.6% (5)	28.8% (19)	57.6% (38)	5
What is the level of accuracy in use of procurement requisitions in the organization	3% (2)	4.5% (3)	12.1% (8)	34.8% (23)	45.5% (30)	4
What is the level of requisition approval in the organization in a year	0% (0)	6.1% (4)	10.6% (7)	42.4% (28)	40.9% (27)	4

	Never	1-2 times	3-4 times	5-6times	Over 6times	Median
How often are open requisitions monitored annually	0% (0)	3% (2)	3% (2)	39.4% (26)	54.5% (36)	5
How often does the organization adhere to requisition management process annually	3% (2)	3% (2)	7.6% (5)	34.8% (23)	51.5% (34)	5
How often are the employees trained or mentored on requisition procedures	0% (0)	4.5% (3)	25.8% (17)	37.9% (25)	31.8% (21)	4
How often is technology applied in procurement requisition	0% (0)	12.1% (8)	13.6% (9)	25.8% (17)	48.5% (32)	5

The findings of the study on the objective exhibited that all the factors of requisition procedures had significant effect on the performance of dairy producer cooperative societies in Kenya. These findings validated with findings that requisitions have a great positive relationship on procurement performance in Kenyan institutions (Ndiiri, 2016). Hao (2018) argues that business organization that allows departmental managers to place orders directly with the suppliers devoid of purchase requisitions, increases the likelihood of fraud.

With purchase requisitions, a centralized procurement system streamlines the complete buying process and reduces the delays, something that greatly benefits the company's efficiency levels (Sutisoft, 2018). The study, therefore, reckoned that the key procurement requisition factors that have an effect on performance of dairy producer co-operative societies in Kenya include level of preparation and implementation of procurement requisition plans, accuracy in use of requisitions, requisition approval rate, monitoring of requisitions, management practices, training and application of technology.

4.4.2 Inferential Statistics

Regression analysis was further performed in order to establish the statistically significance relationship between requisition procedures and dependent variable, procurement performance. Regression analysis is a powerful statistical method that allows you to examine the relationship between two or more variables of interest (Foley, 2018). The ordinal categorical data gathered for this variable were compiled and scored to generate total scores for each variable that was then used for regression. The results from the regression analysis were presented using regression scatter plot diagrams, summary tables, Analysis of Variance (ANOVA) table and beta coefficients tables. Figure 4.4 illustrates the significance of requisition procedures against performance of co-operative societies from regression analysis results. As illustrated, the line of best fit indicates an estimate line that is increasingly positively upwards. This implies that there is a positive linear relationship between requisition procedures and procurement performance.
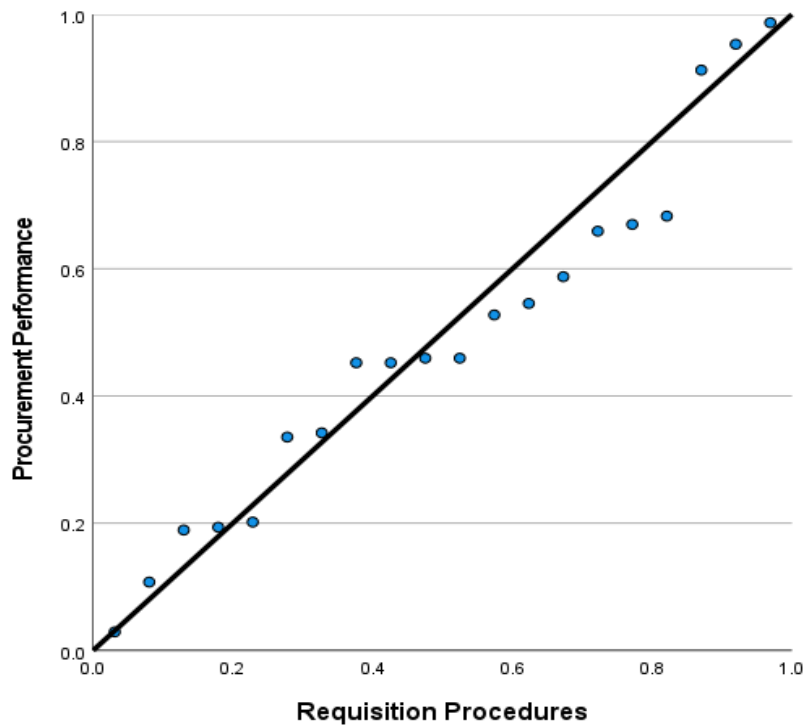
Figure 4.4: Regression Model of Requisition Procedures Against Performance of Co-operative Societies

Table 4.4 below presents the regression model on requisition procedures against procurement performance. As indicated in the table, the R and R^2 values are provided. The R value represents the simple correlation and is 0.985. This value indicates a high degree of correlation. Also, the R^2 value (0.970) indicates how much of the total variation in the dependent variable, performance of co-operative societies, can be explained by the independent variable, requisition procedures. In this case, 97% can be explained, which is very large. R square being high implies a good model fit.

Analysis of Variance (ANOVA) results are also presented, which reports how well the regression equation fits the data or predicts the dependent variable, performance of co-operative societies. As indicated on the model, the regression "sig." (p) value is 0.000, which is less than 0.05. Hence, it is a good fit for the data. The beta coefficients of requisition procedures against performance of co-operative societies were also determined as shown. The p-value is 0.002 which is less than 0.05, hence requisition procedures contributes statistically significantly to the model. The study therefore, concludes that requisition procedures have a significant effect on performance of co-operative societies and thus has a significant positive relationship with performance of performance of co-operative societies.

Table 4.4: Requisition Procedures Regression Model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.985[a]	.970	.960	11.53174

a. Predictors: (constant), Requisition Procedures

b. Dependent Variable: Procurement Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.3569	22	68.3569	4226.37	.000[b]
	Residual	0.72385	40	0.02816		
	Total	69.08075	62			

a. Dependent Variable: Procurement Performance

b. Predictors: (constant), Requisition Procedures

Coefficients[a]

Model		B	Std. Error	t	Sig.
1	(Constant)	-.0262	-.07738	-.5642	.612
	Requisition Procedures	0.933	.0437	26.806	.002

a. Dependent Variable: Procurement Performance

4.5 Ordering Procedures

4.5.1 Descriptive Statistics

Ordering procedures refers to a series of steps created by the buyer, to authorize a purchase transaction for goods or services from a supplier (Chaturvedi & Chakrabarti, 2015). The purchase order process is the journey of a purchase order from creation through purchase order approval, dispatch, delivery, invoicing, and closure.

It also includes budget checks, contract management, quality checks, and more which are competing requirements for the organization (Kissflow, 2020).

This study gathered data on this variable where the category of data was ordinal thus were presented in frequency tables and median was used as the suitable measure of central tendency. The findings are presented in table 4.5.

The study established how often the management apply economic order quantity on orders annually, 48.5% of the respondents indicated economic order quantity is never applied, 22.7% indicated 1 - 2 times, 25.8% indicated 3 - 4 times, 0% indicated 5 - 6 times and 3% reported above 6 times. The modal class is of the respondents who indicated economic order quantity is never applied in organizations. The median resulted to 5 which signifies that on average the management never applies economic order quantity on purchases in organizations. The study also inquired on how often the just in time principle is applied in ordering process and 31.8% of the respondents indicated just in time is never applied, 40.9% indicated it is applied 1-2 times annually, 6.1% indicated 3-4 times, 13.6% indicated 5-6 times while 7.6% indicated over 6 times. The modal class is of the respondents who reported 1 - 2 times. The median was found to be 4 which signifies that on average the organizations observes the just in time principle 1 - 2 times annually.

The study also inquired on the level of compliance on ordering procedures and 13.6% of the respondents reported 0-20%, 25.8% said 20- 40%, 15.2% indicated 40-60%, 21.2% indicated 60-80% while 24.2% indicated over 80% level of compliance.
The modal class is of the respondents who reported 20-40% level of compliance. The median resulted to 4 which signifies that on average the organizations had 20-40% level of compliance with ordering procedures. Finally, respondents were asked on the level of reduction of costs and 4.5% of the respondents said 0-20%, 13.6% said 20-40%, 12.1% said 40-60%, 31.8% indicated 60- 80% and 37.9% indicated over 80% level of compliance. The modal class is of the respondents who reported over 80% level of costs reduction whereas the median was 5, which signifies that on average the organizations had over 80% level of costs reduction on ordering procedures.

Table 4.5: Ordering Procedures

	Never	1-2 times	3-4 times	5-6times	Over 6times	Median
How often does the management apply economic order quantity on orders annually	48.5% (32)	22.7% (15)	25.8% (17)	0% (0)	3% (2)	5
How often is just in time principle applied in ordering process annually	31.8% (21)	40.9% (27)	6.1% (4)	13.6% (9)	7.6% (5)	4

	0%-20%	21%-40%	41%-60%	61%-80%	Over 80%	Median
What is the level of compliance on ordering procedures in the organization	13.6% (9)	25.8% (17)	15.2% (10)	21.2% (14)	24.2% (16)	4
What is the level of reduction of ordering costs in the organization annually	4.5% (3)	13.6% (9)	12.1% (8)	31.8% (21)	37.9% (25)	5

4.5.2 Inferential Statistics

Regression analysis was conducted to determine the statistical significance relationship of ordering procedures against performance of co-operative societies. Figure 4.5 illustrates the significance of ordering procedures against performance of co-operative societies from regression analysis results. As illustrated, the line of best fit indicates an estimate line that is increasingly positively upwards. Therefore, this indicates that there is a positive linear relationship between ordering procedures and performance of co-operative societies.
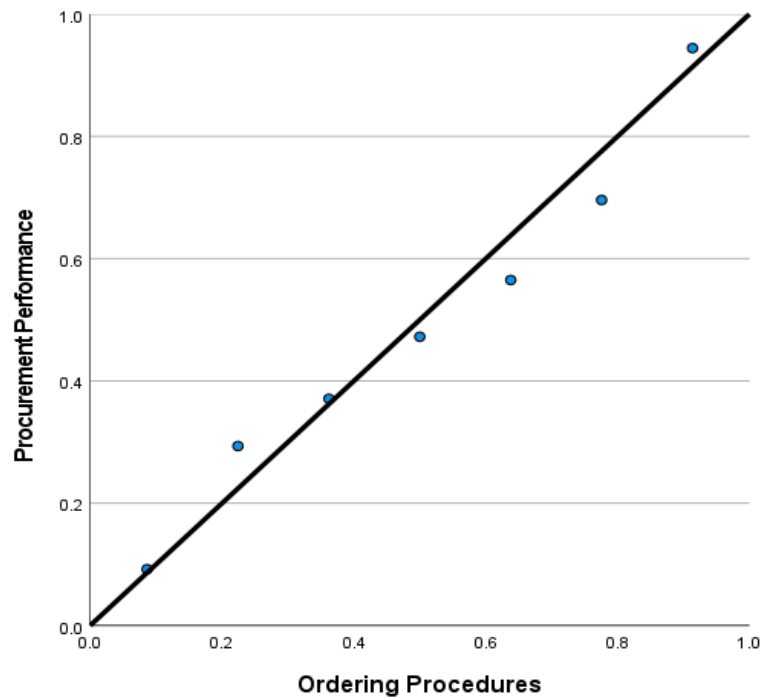
Figure 4.5: Regression Model of Ordering Procedures Against Performance of Co-operative Societies

Table 4.6 below presents the regression model on ordering procedures against performance of co-operative societies. As indicated in the table, the R and R^2 values are provided. The R value represents the simple correlation and is 0.873. This value indicates a high degree of correlation. Also, the R^2 value indicates how much of the total variation in the dependent variable, performance of co-operative societies, can be explained by the independent variable, ordering procedures. In this case, 76.2% can be explained, which is large. R square being high implies a good model fit.

Analysis of Variance (ANOVA) results are also presented, which reports how well the regression equation fits the data or predicts the dependent variable, performance of co-operative societies as indicated on the model, the regression p value is 0.001, which is less than 0.05. Hence, it is a good fit for the data. The beta coefficients of ordering procedures against performance of co-operative societies were also determined as shown. The p-value is 0.0002 which is less than 0.05, hence ordering procedures contributes statistically significantly to the model. The study therefore, concludes that ordering procedures have a significant effect on performance of co-operative societies.

Table 4.6: Ordering Procedures Regression Model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873[a]	.762	.740	2.53174

a. Predictors: (constant), Ordering Procedures

b. Dependent Variable: Procurement Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	65.1469	22	65.1469	13.9568	.001[b]
	Residual	3.9341	40	1.36706		
	Total	69.081	62			

a. Dependent Variable: Procurement Performance

b. Predictors: (constant), Ordering Procedures

Coefficients[a]

Model		B	Std. Error	t	Sig.
1	(Constant)	-.362	1.738	-.564	.612
	Ordering Procedures	.923	.337	7.806	.0002

a. Dependent Variable: Procurement Performance

4.6 Inspection Procedures

4.6.1 Descriptive Statistics

The quality inspection occurs so that a company can verify that the product/service is within certainly prescribed tolerances in order for the product/service to be useful. Quality inspections are an important part of the manufacturing process and have a place in a number of areas of the supply chain from goods receipt, production, goods issue, and warehousing (Murray, 2019). Respondents were asked to indicate the effect of inspection procedures on the performance of dairy producer co-operative societies in Kenya based on the indicators. The findings are presented in table 4.7. The data collected was ordinal categorical and was presented in frequency tables with the median being the suitable measure of central tendency.

Respondents were asked on the level of expertise of staff in inspection procedures and 45.5% of the respondents indicated 0-20% of staff has expertise, 22.7% indicated 20-30% of staff has expertise, 15.2% said 30-40% of staff has expertise, 12.1% indicated 40-50% of staff is qualified while 4.5% said over 50% of staff is qualified. The modal class is of the respondents who had 0-20% of staff qualified. The median resulted to be 4 which signifies that on average the institutions had 0-20% of staff who had expertise on inspection procedures. The study also inquired on the level of response time in inspection and 0% of the respondents said response time was at 0-20%, 3% said 20-30% level of response, 3% indicated 30-40% response time, 25.8% indicated 40-50% level of response and 68.2% indicated over 50% level of response. The modal class is of the respondents who indicated over 50% response time. The median was 4 which signifies that on average the organizations had over50% level of response time of inspection procedures.

Also, respondents were asked on the rate of errors experienced in inspection and 45.5% said 0-20%, 37.9% said 20-30%, 12.1% said 30-40%, 4.5% indicated 40-50% error rate and 0% indicated an error rate of above 50%. The modal class is represented by the respondents who indicated 0-20% error rate. The median resulted to be 5 which signifies that on average the rate of errors experienced in inspection procedures in organizations is at 0-20%. Lastly, the respondents were asked on how often effective inspection procedures are applied in the organization and 0% indicated they are never applied, 13.6% of respondents indicated 1-2 times, 60.6% indicated 3-4 times, 22.7% reported 5-6 times and 3% indicated over 6 times. The modal class was represented by respondents who indicated effective inspection procedures are applied 3-4 times. The median was found to be 5 which implies that on average effective inspection procedures are applied 3-4 times in the organization annually.
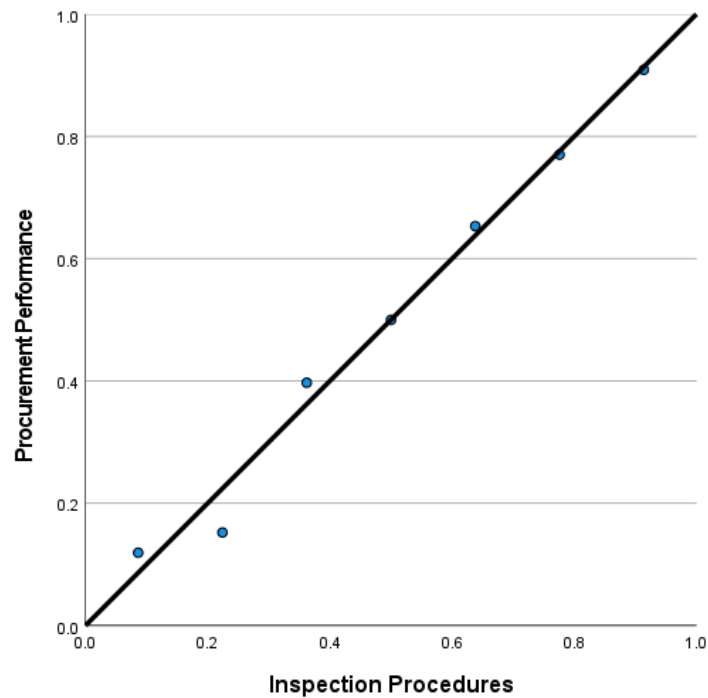
Table 4.7: Inspection Procedures

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%	Median
What is the level of expertise of employees in inspection procedures in the organization	45.5% (30)	22.7% (15)	15.2% (10)	12.1% (8)	4.5% (3)	4
What is the level of response time in inspection in the organization	0% (0)	3% (2)	3% (2)	25.8% (17)	68.2% (45)	4
What is the rate of errors experienced in inspection of products in the organization	45.5% (30)	37.9% (25)	12.1% (8)	4.5% (3)	0% (0)	5

	Never	1-2 times	3-4 time	5-6times	Over 6times	Median
How often are effective inspection procedures applied	0% (0)	13.6% (9)	60.6% (40)	22.7% (15)	3% (2)	5

4.6.2 Inferential statistics

Regression analysis was conducted to establish the statistical significance relationship of inspection procedures against performance of co-operative societies. Figure 4.6 illustrates the significance of inspection procedures against performance of co-operative societies from regression analysis results. As shown in the figure, the line of best fit indicates an estimate line that is increasingly positively upwards. Therefore, this indicates that there is a positive linear relationship between inspection procedures and performance of co-operative societies

Figure 4.6: Regression Model of Inspection Procedures Against Performance of Co-operative Societies

Table 4.8 below presents the regression model on inspection procedures against performance of co-operative societies. As indicated in the table, the R and R^2 values are provided, where the R value represents the simple correlation and is 0.684. This value indicates a high degree of correlation. Also, the R^2 value indicates how much of the total variation in the dependent variable, performance of co-operative societies, can be explained by the independent variable, inspection procedures. In this case, R^2 value of 0.626 indicates that 62.6% can be explained, which is a good model fit.

Analysis of Variance (ANOVA) results are also presented, which reports how well the regression equation fits the data or predicts the dependent variable, performance of co-operative societies. As indicated on the model, the regression p value is 0.002, which is less than 0.05. Hence, it is a good fit for the data. The beta coefficients of inspection procedures against performance of co-operative societies were also determined as indicated. The p-value is 0.001 which is less than 0.05, hence inspection procedures contributes statistically significantly to the model. The study therefore, concludes that inspection procedures have a significant effect on performance of co-operative societies.

Table 4.8 Inspection Procedures Regression Model:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.684[a]	.626	.614	4.53174

a. Predictors: (constant), Inspection Procedures

b. Dependent Variable: Procurement Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.02471	22	68.02471	11.9568	.002[b]
	Residual	1.05629	40	1.44926		
	Total	69.081	62			

a. Dependent Variable: Procurement Performance

b. Predictors: (constant), Inspection Procedures

Coefficients[a]

Model		B	Std. Error	t	Sig.
1	(Constant)	-.362	1.738	-.564	.1834
	Inspection Procedures	.923	.337	7.806	.001

a. Dependent Variable: Procurement Performance

4.7 Performance of Co-operative Societies

Respondents were also asked questions on performance of procurement function in dairy producer cooperative societies in Kenya. Different factors were used to collect ordinal categorical data, which was presented in frequency tables and the median was used as the suitable measure of central tendency. The results are thus presented in table 4.9 below.

The study established the level of adherence to procurement processes by organizations. On this indicator, 0% of the respondents indicated 0%-20%, 3% indicated 20-30%, 12.1% indicated 30-40%, 16.7% indicated 40-50% and 68.2% indicated over 50%. From the data, the modal class is of the respondents who indicated over 50%.

The resulting median was thus established to be 5 which signifies that on average the level of adherence to procurement processes by organizations was above 50%.

The respondents were also asked on the level of reduction of procurement expenditure in the organization and 6% of the respondents reported 0-20%, 6% reported 20-30%, 13.6% reported 30-40%, 25.8% reported 40-50% while 48.5% reported reduction level above 50%. The modal class is of the respondents who indicated over 50%. The median was 5 which signifies that on average level of reduction of procurement expenditure in organizations was above 50%.

The study also inquired on the level of transparency and accountability of procurement resources. From the data collected, 0% of the respondents reported 0-20%, 3% reported 20-30%, 3% reported 30-40, 33.3% reported 40-50% and 60.6% reported above 50%. The modal class is of the respondents who reported over 50% level of transparency accountability. The median was 5 which signifies that on average the level of transparency and accountability of procurement resources in organizations was over 50%. Lastly, the study asked on the level of quality of goods and services procured and 0% of the respondents indicated 0-20%, 3% indicated 20-30%, 19.7% indicated 30-40%, 42.4% reported 40-50% while 34.8% reported over 50%. The modal class is of the respondents that reported 40-50% level of quality. The median was 4 which signifies that on average the level of quality of goods and services procured was between 40-50%.

Table 4.9: 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 of procurement resources	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

4.8 Multicollinearity

In addition to the tests of reliability conducted, a test of multicollinearity was done at pilot stage to verify whether the independent variables that were accepted exhibited collinearity or not. Multicollinearity occurs when independent variables in a regression model are correlated. This correlation is a problem because independent variables should be independent (Frost, 2017). According to Frost (2017), if the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results.

 A situation where there is a high degree of association between independent variables is said to be a problem of multi-collinearity which results into large standard errors of the coefficients associated with the affected variables (Njeru, 2015). Multi-collinearity can occur in multiple regression models in which some of the independent variables are significantly correlated among themselves (Mugenda & Mugenda, 2012). In a regression model that best fits the data, independent variables correlate highly with dependent variables but correlate, at most, minimally with each other. This problem was solved by ensuring that there was a large enough sample as multicollinearity is not known to exist in large samples (Frost, 2017). Multi-collinearity can also be solved by deleting one of the highly correlated variables and re-computing the regression equation. As observed in table 4.6 below, the tolerances are all above 0.2. According to Frost (2017), if a variable has collinearity tolerance below 0.2, it implies that 80% of its variance is shared with some other independent variables. All the variance inflation factors (VIFs) are also below 5. The VIF is generally the inverse of the tolerance. Multicollinearity is associated with VIF above 5 and tolerance below 0.2. In this study, the accepted variables were therefore established not to exhibit multicollinearity and thus were fit for analysis.

Table 4.10: Multicollinearity Test

| Variable	Tolerance	VIF
Requisition Procedures	0.56135	1.78143
Ordering Procedures	0.80075	1.24882
Inspection Procedures	0.54033	1.85073

Source: Research data (2020)

4.9 Normality Test

In order for a linear model to be fitted to a given data, the dependent variable should be normally distributed (Frost, 2017). The dependent variable of the study was performance of co-operative societies. A normal Q-Q plot test was done to test for normality of the data graphically.

4.9.1 Q-Q Plot

As shown in the Q-Q scatter plot in figure 4.7 below, most of the observed values are fitted close to the straight line. This means that there is a high probability that the data are normally distributed. This is because in order for data to be normally distributed, the observed values should be spread along the straight diagonal line.
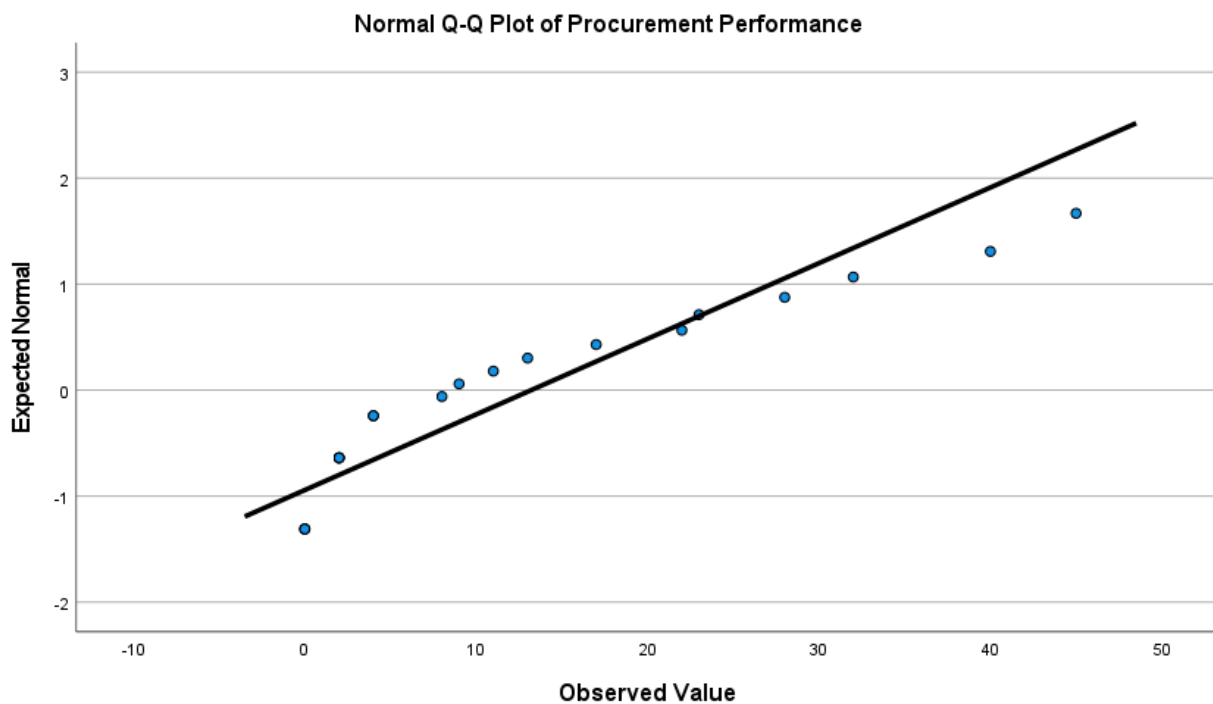
Figure 4.7: Normal Q-Q Plot of Performance of Co-operative Societies

4.9.2 Shapiro-Wilk Test of Normality

The below table 4.11 presents the results from two tests of normality, namely the Kolmogorov-Smirnov test and the Shapiro-Wilk test. They were used to test whether the dependent variable followed a normal distribution numerically.

As shown in the table, Shapiro-Wilk statistic 0.854 has a p-value of 0.006, which is less than 0.05.

Since it has a 95% confidence interval, the study concluded that the dependent variable of performance of co-operative societies was normally distributed hence a linear model was justified.

Table 4.11: Shapiro-Wilk Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Procurement	Statistic	df	Sig.	Statistic	df	Sig.
Performance	0.194	66	0.047	0.854	66	0.006

4.10 The Multiple Regression Model

Multiple regression analysis was further conducted to examine whether the independent variables including requisition procedures, ordering procedures and inspection procedures had an effect on performance of co-operative societies in dairy producer cooperative societies in Kenya.

The multiple regression equation was adopted to describe the relationship between the independent variables and the dependent variable.

The nature of the model was:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \text{\euro}$

Where:

β_0 = Constant

Y = Performance of dairy co-operatives

X_1 = Requisition Procedures

X_2 = Ordering Procedures

X_3 = Inspection Procedures

βi = Coefficients of regression for the independent variables Xi (where i = 1,2,3)

$\text{\euro}$ = Error Variable

The results of the multiple regression analysis are presented in table 4.12.

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%, it concurs with Frost (2017) that the multiple regression model has a good fit.

As indicated in table 4.16, the ANOVA (Analysis of Variance) was applied in testing the statistically 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.

Table 4.12: 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 Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
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 multiple regression analysis, the substitution of the model equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$ thus results to: $Y = 3.374 + 0.842 X_1 + 0.656 X_2 + 0.0752 X_3 + \epsilon$.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings as presented in the previous chapter based on the specific objectives of the study and hypotheses. From the findings, conclusions have been drawn and recommendations provided based on application. The chapter ends in recommendations of areas for further research.

5.2 Summary of Findings

The research study's general objective was to examine the effects of internal procurement processes on the performance of dairy producer co-operative societies in Kenya. The specific objectives of the study included: To examine the effect of requisition procedures on the performance of dairy producer co-operative societies in Kenya; To determine the effect of ordering procedures on the performance of dairy producer co-operative societies in Kenya; To assess the effect of inspection procedures on the performance of dairy producer co-operative societies in Kenya. The review of relevant literature by the study revealed that strict adherence to internal procurement processes not only promotes transparency and accountability but also efficiency of the procurement function and ultimately performance of organizations. It was also established that the level of application of internal procurement processes had remarkable effects on procurement performance of organizations. Major findings of the study have been summarized on a per variable basis.

5.2.1 Requisition Procedures and Performance

The research study examined the effect of requisition procedures on the performance of dairy producer co-operative societies in Kenya. It was established that requisition procedures have a statistically significant positive correlation of 0.985 with performance of dairy producer co-operative societies in Kenya. This signifies a positive relationship between requisition procedures and performance of dairy producer co-operative societies in Kenya. It was also evident from the regression analysis that requisition procedures have a 0.842 significant effect on performance of procurement function in dairy producer co-operative societies. This therefore, indicates that a unit increase in requisition procedures will result to a 0.842 increase in performance of dairy producer co-operative societies in Kenya.

5.2.2 Ordering Procedures and Performance

The research study also sought to determine the effect of ordering procedures on the performance of dairy producer co-operative societies in Kenya. From the findings, it was found that ordering procedures have a statistically significant positive correlation of 0.873 with performance of dairy producer co-operative societies in Kenya. This therefore signifies that there is a positive relationship between ordering procedures and performance of dairy producer co-operative societies in Kenya. It was also revealed from the regression analysis that ordering procedures have a positive significant effect of 0.656 on performance of dairy producer co-operative societies in Kenya. This therefore, indicates that a unit increase in ordering procedures will lead to a 0.656 increase in performance of dairy producer co-operative societies in Kenya.

5.2.3 Inspection Procedures and Performance

Further, the study also sought to establish the effect of inspection procedures on the performance of dairy producer co-operative societies in Kenya. The findings of the study established that inspection procedures have a statistically significant positive correlation of 0.684 with performance of dairy producer co-operative societies in Kenya. This therefore signifies that there is a significant positive relationship between inspection procedures and performance of dairy producer co-operative societies in Kenya. From the regression analysis, it was also established that inspection procedures have a positive significant effect of 0.752 on performance of dairy producer co-operative societies. This therefore, indicates that a unit increase in inspection procedures will lead to a 0.752 increase in performance of dairy producer co-operative societies.

5.2.4 Performance of Dairy Producer Co-operative Societies

The study also conducted a multiple regression analysis. From the model, performance of dairy producer co-operative societies had a determination of coefficient R value of 0.918 and R Squared value of 0.843. The R value of 0.918 implied that 91.8% of performance of dairy producer co-operative societies variance can be statistically significantly predicted or explained by the independent variables requisition procedures, ordering procedures and inspection procedures. Also, the p-values of all the independent variables were less than 0.05 which implies that they have statistically 0.05 significant effect level on performance of dairy producer co-operative societies.

5.3 Conclusions

In support of the findings, the study therefore concludes that requisition procedures, inspection procedures and ordering procedures have a significant effect on the performance of dairy producer co-operative societies in Kenya.

5.3.1 Requisition Procedures

The study concludes that requisition procedures is a major determinant of performance of dairy producer co-operative societies in Kenya. As revealed by the multiple regression model, requisition procedures had a significant effect of 0.842 on performance of dairy producer co-operative societies, meaning that increasing the level of requisition procedures by a unit would increase the level of performance of dairy producer co-operative societies by 0.842. It therefore indicates that requisition factors including panning, accuracy, rate of approval, monitoring, training and level of technology applied have a significant positive effect on the performance of dairy producer co-operative societies in Kenya.

5.3.2 Ordering Procedures

This study also concludes that ordering procedures moderately determines the performance of dairy producer co-operative societies in Kenya. The cooperative 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. Results from multiple regression model shows that ordering procedures had an effect of 0.656 on performance of dairy producer co-operative societies. This finding implies that increasing the level of requisition procedures by a unit would increase the level of performance of dairy producer co-operative societies by 0.656. Therefore, ordering factors of order quantity, delivery time, level of cost reduction and pricing competitiveness have a positive effect on the performance of dairy producer co-operative societies in Kenya.

5.3.3 Inspection Procedures

In conclusion also, inspection procedures are the third major determinant of performance of dairy producer co-operative societies in Kenya. As found out from the multiple regression model, inspection procedures had a significant effect of 0.752 on performance of dairy producer co-operative societies.

This means that increasing the level of inspection procedures by a unit would increase the level of performance of dairy producer co-operative societies by 0.752. Thus, inspection factors such as qualification, response time, register usage and review have a significant positive effect on the performance of dairy producer co-operative societies in Kenya.

5.4 Recommendations

Based on the summary of findings and conclusions, the study thus makes some recommendations for effective application of internal procurement processes in dairy producer co-operative societies in Kenya.

5.4.1 Requisition Procedures

Requisition procedures are one of the major determinants of performance in dairy producer co-operative societies in Kenya. To this end, the management of dairy producer cooperative societies should upgrade on the level of procurement requisition planning in dairy co-operative societies. The management should also promote accuracy in use of requisition, enhance rate of approval of requisitions, requisition monitoring, training of staff on requisition application and application of relevant modern technology in requisition procedures.

5.4.2 Ordering Procedures

Performance of dairy producer co-operative societies in Kenya is hampered by sustained ordering costs hence defying value for money. The study therefore recommends that the management of dairy producer co-operative societies should make use of proper cost reduction mechanisms such as economic order quantity management as well as effective purchase order processes. The management should also improve on reducing lead time by improving delivery time of purchases.

5.4.3 Inspection Procedures

The management of dairy producer co-operative societies should initiate more training and empowerment programs on inspection procedures to improve on inspection skills and qualities of staff. The management should also recruit trained inspection personnel capable of passing on their skills and instill the culture of careful inspection procedures in co-operative societies.

5.5 Suggestions on Further Research

This study is a turning point for extensive research in the sector of co-operatives and procurement. A study should be conducted on other internal procurement processes and their effects on performance of dairy producer co-operative societies since procurement has been established as a key function in co-operative societies. Finally, further research should also be conducted and extended to other co-operative societies and the private sector.

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Appendix I: Questionnaire

Instruction: In this section, please fill out by ticking (√) the relevant box. Write your answer in the space provided where choices are not given.

SECTION A: Background Information

1. Highest education level attained

   Secondary ☐

   College ☐

   University ☐

   Post-Graduate ☐

   Professional ☐

   Any other (Specify)……………………

2. Working experience with the Co-operative

   Less than 5 Years ☐

   6 – 10 Years ☐

   11 – 15 Years ☐

   Above 15 Years ☐

3. Working department in the co-operative

   Administration ☐

   Finance ☐

   Procurement ☐

   Any other (Specify)……………………….

4. Rank/Position held in the co-operative

   Top Level Staff ☐

   Middle Level Staff ☐

   Lower Level Staff ☐

   Any other (Specify)...

SECTION B: Requisition Procedures

Instructions: Please tick **(√)** where appropriate on the following questions regarding application of requisition procedures in the organization.

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%
What is the organization's level of preparation and implementation of procurement requisition plans					
What is the level of accuracy in use of procurement requisitions in the organization					
What is the level of requisition approval in the organization in a year					

	Never	1-2 times	3-4 times	5-6times	Over 6times
How often are open requisitions monitored annually					
How often does the organization adhere to requisition management process annually					
How often are the employees trained or mentored on requisition procedures					
How often is technology applied in procurement requisition					

II. Please provide your views on how application of requisition procedures in procurement can be enhanced in the organization.

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SECTION C: ORDERING PROCEDURES

Instructions: Please tick **(√)** where appropriate on the following questions regarding application of ordering procedures in the organization.

	Never	1-2 times	3-4 times	5-6times	Over 6times
How often does the management apply economic order quantity on orders annually					
How often is just in time principle applied in ordering process annually					

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%
What is the level of compliance on ordering procedures in the organization					
What is the level of reduction of ordering costs in the organization annually					

II. Please provide your views on how application of requisition procedures in procurement can be enhanced in the organization.

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SECTION D: INSPECTION PROCEDURES

Instructions: Please tick **(√)** where appropriate on the following questions regarding application of ordering procedures in the organization

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%
What is the level of expertise of employees in inspection procedures in the organization					
What is the level of response time in inspection in the organization					
What is the rate of errors experienced in inspection of products in the organization					

	Never	1-2 times	3-4 times	5-6times	Over 6times
How often are effective inspection procedures applied in the organization					

II. Please provide your views on how application of inspection procedures in procurement can be enhanced in the organization.

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SECTION E: PROCUREMENT PERFORMANCE OF DAIRY COOPERATIVE SOCIETIES

Instructions: Please tick **(√)** where appropriate on the following questions regarding application of inspection procedures in the organization

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%
What is the level of adherence to procurement processes					

What is the level of procurement expenditure reduction in the organization					
What is the level of transparency and accountability of procurement resources					
What is the level of quality of goods and services procured					

Thank you for your participation.

Appendix II: Introduction Letter

To Whom It May Concern

Dear Sir/Madam,

RE: CONSENT FOR DATA COLLECTION

My name is Mugambi Martin Mutwiri and I am a student at Cooperative University of Kenya, Karen, Nairobi. I am pursuing a Master's degree course in Cooperative Management and as part of the requirements for the award of the degree, I am required to carry out a research project on the topic of Examination of the effects of internal procurement processes on the performance of dairy producer cooperative societies in Kenya.
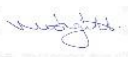
Therefore, I am kindly requesting for your consent and assistance to fill the questionnaires attached so as to collect data, which will be used purposely for academic activities only. Information provided will be treated as confidential.
Your consent will be highly appreciated.

Yours sincerely,

Mugambi Martin Mutwiri.

Appendix III: NACOSTI Permit

Appendix IV: Pilot Study Results on Validity and Reliability

Factor Analysis Results and Reliability of Requisition Procedures

Indicators	Factor Loadings	Cronbach's Alpha
What is the organization's level of preparation and implementation of procurement requisition plans	0.801	0.83
What is the level of accuracy in use of procurement requisitions in the organization	0.758	
What is the level of requisition approval in the organization in a year	0.756	
How often are open requisitions monitored annually	0.709	
How often does the organization adhere to requisition management processes annually	0.767	
How often are the employees trained or mentored on requisition procedures	0.753	
How often is technology applied in procurement requisition	0.714	

Source: Research data (2020)

Factor Analysis Results and Reliability of Ordering Procedures

Indicators	Factor Loadings	Cronbach's Alpha
How often does the management apply economic order quantity on orders	0.811	0.848
How often are purchase orders delivered just in time	0.807	
What is the level of compliance on ordering procedures in the organization	0.793	
What is the level of reduction of ordering costs in the organization annually	0.743	

Source: Research data (2020)

Inspection Procedures factor analysis and reliability results

Indicators	Factor Loadings	Cronbach's Alpha
What is the level of expertise of employees in inspection procedures in the organization	0.871	0.831
What is the level of response time in inspection in the organization	0.852	
What is the rate of errors experienced in inspection of products in the organization	0.834	
How often are effective inspection procedures applied	0.735	

Source: Research data (2020)

Factor Analysis and reliability results of Performance of co-operative societies

Indicators	Factor Loadings	Cronbach's Alpha
What is the level of reduction of procurement expenditure	0.769	0.895
What is the level of service delivery in the organization	0.849	
What is the level of transparency and accountability of procurement funds	0.794	
What is the level of income made annually	0.844	
What is the level of quality of procured goods and services	0.754	

Source: Research data (2020)

Appendix V: Dairy Producer Co-operative Societies Sampling Frame

1. Meru Central Farmers' Co-operative Union
2. Githunguri Dairy
3. New Kenya Co-operative Creameries
4. Kinangop Dairy
5. Wakulima
6. Ndumberi
7. Kabete Dairy
8. Kangema Unity Investment Co-operative
9. Muthiru Dairy Farmers Co-operative
10. Katheri Dairy
11. Maziwa Taifa Co-operative Society
12. Muruny Cooperative
13. Kiptabuk Farmers' Co-operative
14. Mumberes Dairy
15. Kiplombe
16. Torongo
17. Balek Dairy Co-operative
18. Kitinda Dairy
19. Nambale Dairy Farmers
20. Kocholwa Farers Co-operative
21. Mkulima Bora Co-operative Society
22. Mburugu Co-operative Society
23. Gakundu Co-operative Society
24. Kirurumwe Dairy Co-operative Society
25. Maasai Dairy Co-operative
26. Kakamega Dairy Farmers
27. East Wanga
28. Vihiga Dairy Farmers Co-operative
29. Lukomo Dairy
30. Kipkelion Dairy Farmers Co-operative
31. Chepsir Dairy
32. Soymining Dairy Co-operative
33. Kabianga Dairy
34. Sossiot Dairy
35. Burewo Dairy Farmers
36. Cherobu Dairy
37. Cheborge
38. Gatundu South Dairy Farmers
39. Limuru Dairy Farmers Co-operative Union
40. Kikuyu Dairy
41. Kiambaa dairy Co-operative
42. Sigona Dairy
43. Gikambura Dairy Co-operative
44. Gatamaiyu Farmers' Co-operative
45. Magharini Co-operative
46. Kirima Co-operative
47. Rung'eto Co-operative
48. Rongo Dairy Co-operative
49. Etago Dairy Farmers
50. Ukarimu
51. New Yala
52. Ngarua Co-operative Society
53. Nyala multipurpose Co-operative
54. Masii Dairy Farmers Co-operative
55. Wamunyu Dairy Farmers
56. Maragua
57. Ololaiser Co-operative Society
58. Naari
59. Lanet Co-operative
60. Tulaga Co-operative
61. Endarasha Co-operative society
62. Ihururu Co-operative Society
63. Enkorien Dairy
64. Njambini Dairy
65. Kitiri Dairy Co-operative
66. Sabatia Co-operative Society
67. Olenguruone
68. Lessos
69. Waraza
70. Cherangany Dairy Co-operative
71. Sugoi Farmers' Co-operative
72. Kapsangar Kalya Farmers' Co-operative Society

Appendix VI: Plagiarism Report

Martin5

14%	14%	6%	15%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1 ijedict.dec.uwi.edu
Internet Source
<1%

2 Ijarm.com
Internet Source
<1%

3 Submitted to City of Westminster College, London
Student Paper
<1%

4 www.erepo.usiu.ac.ke
Internet Source
<1%

5 Submitted to Boston Institute of Management
Student Paper
<1%