# DETERMINANTS OF PERFORMANCE IN DAIRY COOPERATIVE SOCIETIES IN KENYA: A CASE OF SELECTED COOPERATIVE SOCIETIES IN KIAMBU COUNTY

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# DECLARATION

This thesis is my original work and has not been submitted for a degree award in any University.

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# DEDICATION

I dedicated this thesis to my sons Jason Jabari and Milan Taji together with parents Mr and Mrs Mwebia for their inspiration throughout my study period.

### ABSTRACT

Smallholder dairy farming offers regular income and asset accumulation to families through empowerment economically and improving livelihood. Despite this, the dairy industry and the enterprises that operate in there like cooperative societies have faced challenges influencing the performance of both well performing and not well performing. The major objective of this research was to analyze determinants of performance of the dairy industry in Kenya: a case study of selected cooperative societies in Kiambu County. Specifically, the study sought to determine the influence of management and its subsequent impact on the their performance; impact of marketing on performance ; impact of training of staff members on their performance of dairy cooperative societies; in dairy cooperative societies in Kiambu County, Kenya. The study was guided by; Economic Game Theory of Cooperatives, Scientific Theory of Management, Agency Theory and the Theory of Transfer of Learning. The research may be significant to the management of dairy cooperative societies in Kiambu County. The target population consisted of 15 management committee members, 24 top management and 35 staff members totaling to 74 employees. The research adopted census and questionnaires applied in collecting data. During data analysis, quantitative approaches were used where Statistical Package for Social Sciences (SPSS version 23.0) analyzed descriptive and inferential statistics. The data was presented using frequency distribution tables. The findings from 58 respondents were that performance of dairy cooperative societies was significantly related with management (p < 0.05) and training (p < 0.05) 0.05). However, the relationship between milk marketing and performance was insignificant at p < 0.05 but only significant at p < 0.1). It was also found that while management style had a strong negative influence on performance (t = -4.1874, p < 0.001) both marketing, and training had positive influence on performance (Marketing: t = 1.732, p = 0.089; Training: t = 8.512, p <0.001). The implication of these findings is that managers and staff of dairy cooperatives need to adopt management style and marketing, which would positively contribute to performance. The study recommends that; cooperatives should continue emphasizing training since it had the greatest influence on performance. Moreover, dairy industry should invest in milk market infrastructure, which will subsequently improve breeding programs. Further, dairy cooperatives should focus on improving promotion, distribution and quality of milk as a key strategy to realize the needed performance. The management style should also be improved because it was found to negatively impact performance. Specifically, cooperatives should promote professional management.

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# ABBREVIATIONS AND ACRONYMS

AGM	-	Annual General Meeting
CIC	-	Co-operative Insurance Company of Kenya
ECCO	-	Ethics Commission for Co-operative Societies
FAO	-	Food and Agriculture Organization
FOSA	-	Front Office Services Activities
GDP	-	Gross Domestic Product
GOK	-	Government of Kenya
HRM	-	Human Resource Management
KCC	-	Kenya Co-operative Creameries
КСО	-	Kenya Cooperative Ordinance
KFA	-	Kenya Farmers Association
SACCO	-	Savings and Credit Cooperative Societies
SAP	-	Structural Adjustment Programmes
SASRA	-	Sacco Societies Regulatory Authority
SPSS	-	Statistical Package for Social Scientists
WOCCU	-	The World Council of Credit Unions

## **CHAPTER ONE**

#### **INTRODUCTION**

#### **1.1 Background to the Study**

Organizations of all types are established with the purpose of satisfying their various stakeholders sustainably. Cooperatives are such organizations that are created by a number of individuals who come together to invest in cooperatives with the aim of accessing financial benefits in terms of loans to be used for socio-economic development. Cooperatives are independent integration of individuals coming together to advance their shared socio-economic, and cultural goals by establishing a joint and democratically owned institutions (International Cooperative Alliance, [ICA], 2015). The critical cooperative pillars include involvement and participation of members, independence and autonomy, open and voluntary membership; democracy in membership control; providing education and training cooperation among cooperatives (ICA, 2015). Several cooperatives in Kenya are agricultural sector based including the dairy sector.

Co-operatives are premised on member ownership, member managed as well as memberbenefited institutions; ranging from agricultural, manufacturing, and financial or Savings and Credit Co-operatives (SACCOs). The Rochdale Society of Equitable Pioneers, started in 1844, designed the Rochdale Principles that anchor the principles on which co-operatives globally adopt Co-operative societies may perform poorly in case its management and leadership are illiterate or of low education and lack exposure and trainings. Other contributing factors include unpreparedness by co-operative societies to modernize and embrace change to become better, and poor marketing strategies that give the competition undue advantage resulting in lack of essential services and poor management and leadership (Karanja, 2003).

In entrepreneurial practices, proprietors can be sourced as managers. Tibbs and Yegon (2015) stated that entrepreneurial capabilities affect results as well as the process of utilizing resources to improve income and gains to co-operative society membership. An organization's management should adopt an entrepreneurial approach to issues by combining entrepreneurial behaviour like innovativeness, risk taking and creativity, with administrative functions, among others, for the growth of the organization.

Research Foss et al., (2008) notes that current firms greatly embracing entrepreneurial roles comprehensively within a firm to overcome organizational management rigidity. Acknowledging opportunities as well as value addition by utilizing advanced variety of utilities is entrepreneurial. Foss et al., (2008) further confirmed some entities exhibit improved entrepreneurship compared to their competitors. Entrepreneurially right establishments are widely distinct from their administrative counterparts and are exhibited in their capacity to innovation, initiating reforms, and ability to adapt to new developments and resiliency (Guth & Ginsberg, 1990). While conservative establishments indicate reduced introduction new commodities, entrepreneurially right entities show increased levels of innovations rapidly. Levels of entrepreneurial activities influence business venture placement on the entrepreneurial endurance strength.

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Since milk has important nutritional value to populations around the works, it is desirable that the dairy industry is developed to meet the nutritional demand of citizens in countries of the world. Like any other sector, satisfactory performance of the dairy industry should be the concern of all managers and as well as governments. It is therefore of strategic importance to address all barriers to the satisfactory performance of this key food security industry. From a strategic management perspective, all organizations exist in an environment, which is in a state of continuous change (ICA, 2015). In addition, these organizations have an imperative to satisfy their various stakeholders by posting satisfactory performance; this is the essence of strategy. In the case of the dairy industry, it is necessary that it satisfies consumer needs through timely provision of quality milk and associated products. It should provide returns to investors - some of whom are cooperative members as is the case in Kenya and indeed in a number of other countries. To be able to respond to stakeholder requirements the dairy industry has the necessity to formulate and implement strategies that ensure effective positioning in the market, effective management and a highly skilled staff who can effectively deal with the dynamic market environment.

Globally, dairy industry significantly contributes towards economic development of individual country (Chege & Bula, 2015). According to Nyariki and Thirtle (2000) factors impacting the dairy sector are distinct to each nation globally. Commonly, in developing countries they practice small-scale farming where the owners have one to three dairy animals, while in developed countries, commercial dairying enterprises are largely associated with large scale faming and farmers who own typically more than 100 dairy animals. Kenya is amongst the leading producers of dairy products where exotic cattle is 3.5 million, camels 2.9 million, goats 27.7 million and

indigenous cattle 14.1 million.

According to Food Agriculture Organization (FAO) statistics, the European Union remains the leading dairy producer contributing over 142 million tonnes annually. Although nationally, India remains the leading producer, producing around 94 million tones (55% buffalo milk); New Zealand is the leader in the production of cows' milk. Annual global milk production is estimated to be 644 million tones. In Asia, the tropical territories account for one third of cow milk produced globally. Major tropical dairy establishments are located in Kenya, Zimbabwe, India and the Caribbean although the industry has stagnated as a result of limitations of harsh weather, poor nutritional feeds, infections and parasites prevalent in these ecosystems hence decline milk production and quality (Government of Kenya, [GOK] 2009).

Cooperative establishments merge different individuals and ideas together irrespective of their social standing. The United Nations estimates it has brought 800 million people together globally. The first Co-operative Society globally was around 1844 England, Rockdale, when Britain was undergoing the industrial revolution, (Cropp & Truman, 2001). In United State of America, dairy cooperative societies were among the trailblazers in agricultural cooperative societies to be organized and their inception can be traced back to around 1800s, (Cropp & Truman, 2001).

Dairy cooperative societies have greatly contributed to the buying, processing and marketing in the dairy industry as well member representation on leadership and state matters In Africa Cooperative development is phased into two eras, the post-independence 1960's to 1980s and liberalisation era in early 1990's. In both phases, legal policies empowered African states authority to regulate and oversee management of the cooperative societies, which enjoyed monopolies in trade, were rarely truly voluntary, autonomous or independent. They were

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subsequently engulfed into state politics. (Karanja, 2003).

Cows produce eighty percent of the world's milk consumed, this is according to FAO, and 20098% of the world's milking animals are buffaloes who produce roughly 13% of the world's milk output while 5% are camels. Sheep and goats produce a small volume of milk (Kinyenje, 2013). In the world dairy trade, Australia and New Zealand are two very significant milk-producing countries. Europe as a country produces 210 million tons of milk, the European Union produces 151 million tons while Russian Federation produces 32 million tons. A quarter of the world's milk is produced from North, South and Central America, United States being the largest producer. China accounts for a third of global milk, hence the leading producer of cow milk in the Asian continent. India produces 103 million tons of milk where more than half (57 million tons) is from buffaloes and it accounts for two-thirds of the world's entire production of buffalo milk.

According to Mwangi (2013) the Middle East, Asia, South/Central America and Africa are tropical regions estimated to produce a third of cow milk annually. Globally, tropical dairy industries are found in Kenya, Zimbabwe, India and the Caribbean where the industry in this region has been slow due to excessive harsh climates condition, low quality feeds, diseases and parasites and therefore milk yields become low and seasonal. In tropical countries, dairy production is characterized by smallholders who subsistence family component with family food and selling any seasonal surpluses. Normally, these small-scale farmers own two to four milking animals. Milk is delivered to the relevant point once it's milked. Most small-scale farmers retain some of the milk for household consumption, converted to ghee, cheese, and fermented and concentrated milk products.

In Tanzania quarter of a million dairy cattle, contribute largely to the marketed milk, close to 90% (Omore & Staal, 2008). Majority of milk produced in Tanzania is marketed directly to consumers (60%) or via distributors (30%), leaving a small share for co-operatives societies. Extensive and semi-intensive production methods contribute marginally to milk markets (10%). This is because of the separation of these systems from the major town centers and poor economical tools that connect them. There is also a significant price gap in the rural and urban markets thereby explaining the deficit.

Lumbwa Co-operative Society was the first society in Kenya, established in 1908 by white settlers solely aimed at acquiring farm inputs at a cheaper price and subsequently marketing of products to secure maximum gain. Small scale farmers of African origin begun spearheading for the establishment of their societies which saw the birth of Nanyuki Cooperative Creameries in 1928, which was later followed by establishment of the Kenya Cooperative Ordinance act of 1930 enabling the registration of KCC and KFA. These developments saw the integration of cooperative creameries under the Kenya Cooperative Creameries as the umbrella body. Other cash crops (coffee and pyrethrum) were later adopted in cooperatives promotion. All these efforts resulted in numerous societies (1030) by independence in 1963, with a membership close to half million, Owango, et al, (1998).

Breeding services, availability of financial facilities, training initiatives as well as product marketing. A large number of small-scale farmers have greatly depended on cooperative societies for marketing such that their collapse affects milk production. In 1980 Structural Adjustment Programmes (SAPs) were introduced in order to accelerate reforms through liberalization and sectorial changes. The SAPs introduced a revolution in policies in macro-economics a s well as variety in trade that influences competitiveness in the sector and structures. Market entrants was allowed in other segments that were previously disallowed. Co-operatives had to be more in competition in order to sustain growth, (Karanja, 2003). It also led to mergers, while others split to uneconomical entities. With all these challenges, some dairy co-operative societies have flourished and expanded their services to value addition and thereby becoming major players in Kenya (Wanyama, 2008).

Locally in Kenya, 1 out of 5 is a member of a co-operative society meaning 5.9 million and 20 million locals either directly or indirectly benefit from Co-operative societies (this is according to International Cooperatives alliance 2012. Further co-operative societies contribute around 43% to the national GDP and additionally form around 31% of savings and deposits locally. Market breakdown indicates share as follows; coffee market taking 70%, dairy sector having 76%, pyrethrum 90%, and cotton 95%. Therefore, cooperative societies are significant economic actors in national economies.

#### **1.1.1 Organization Performance**

There are various definitions of performance in empirical literature. For example, Atkinson (2012) defines it as the attainment performance ensures delivery of outcomes for owners. It can be viewed similarly as efficiency, effectiveness and economy. . Similarly, Daft (2010) identified it, as an institution is potential in securing its objectives by utilizing utilities efficiently. It is therefore the capacity of an institution to attain its desired results (Sok, O'Cass & Sok, 2013). In general, it's indicated by evaluating financial results and non-financial results or indications (Abu-Jarad et al., 2010). Firms secure an edge over the other by previous standing, leadership decisions, utilities and its entrepreneurial activities with the biggest edge being the strategic plan or a master plan that cannot be duplicated. For cooperatives, the performance is by progression

of membership over time and gradual increased yield of dairy products hence accruing member's welfare. As suggested by Barney (2014), competitive edge is indicated by market dominance, viability, turnover and efficiency.

Kaplan and Norton (2010) argue that performance is a multidimensional constructs comprising adapting and development, management internal activities, consumer opinions and economic views. This research was intended for gaining an understanding about role of organisational performance of dairy industry with a focus on dairy cooperative societies. factors on the Brown and Laverick (1994) argue that realistic model for organizational performance requires more than a single criterion. This is supported by Kaplan and Norton (2010) in the Balanced Scorecard(BSC) tool which uses both economical and non-economic performance indicators Jaggi and Considine (1990) have used various measures for firm's financial performance including profitability liquidity, market share and capital structure. Profitability is in turn measured in terms of return on sales equity (owner's capital), assets and liquidity. Similarly, Njihia et al. (2003) suggest that performance indicator is crucial in helping an institution evaluate results, determining areas of concern, improving motivation, enhancing communication and reinforcing transparency.

Organizational performance comprises the real outcome of an institution as measured against the expected result. Indeed, Awino (2011) advances that for an institution to be productive, high yields must be reported and identification of drivers of performance in the organization. Further, performance may be generalized to include every scenario considering the success of an institution. It also can be referred as the real outcome of a specific effort, mode of operation, or capacity to attain results.

Kiragu (2005) presents performance in four dimensions namely: economical, consumer,

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admistrative mechanisms and creativity that is aligned with the balanced scorecard. The economical dimension determines the major economical drivers of improving results. The client dimension details results in relation to the brand image, consumer satisfaction; consumer retention and client viability. Njihia et al. (2003) asserts that economic performance is the only viable performance indicator since it's critical to the ownership, management and the competitive market. It further indicates institutional success and productivity, which are fundamental to business survival because it is the reason for the existence of firms. Ittner & Larcker (2009), however advance that an institutions results is not only determined by economic performance, but should incorporate management and market indicators. Other non-economic indicators have shown efficiency in inspiring leadership results since they are indicative of the entire management's strategic leadership.

In Africa, there has been a need to establish a blueprint aimed at securing the gains promising improved production (Njuguna, 2016). This is done using the guiding pillars on strategic management ethics that involves having knowledge on desired changes, implementation and monitoring the changes and by systematically creating and sustaining a roadmap for better performance (Hum, 2014).

Sok, O'Cass and Sok (2013) advance that innovation performance indicator ought to align with the institution's success within an economy. Therefore, it is important to monitor the innovation comprehensively, and then identify components impacting innovation. When the major objective of innovation is aimed at establishing other, increased client preference or consumers to get increased return on investment; components promising this success are critical innovation plan; new concepts ,consumer and market; institutional education and knowledge management tools; and institutional culture and leadership.

The relationship between management and performance has been various demonstrated in literature. Management is important aspect of any enterprise that seeks to achieve peak performance. Management therefore concerns planning, controlling, coordinating and motivating. Consequently, these are invaluable variables that dictate the art of management. In this study therefore, it is hypothesized that the cooperative management team has vest control as conferred to the by the virtue of expert authority. It is expected that prudent management would guarantee performance of the co-operative societies. Further, the marketing function is what ensures that an organisation obtains value form the market place. In this regard, effective marketing should be emphasized by organizations (Sok, O'Cass & Sok, 2013).

## 1.1.2 Overview of Dairy Industry in Kenya

Within third world nations, Kenya remains one of the leading countries in milk consumption, consuming approximately 145 litres / person annually; which is far superior when compared to other East African nations (SDP, 2005). Within these third world nations, only Mongolia and Mauritania's milk consumption outweighs Kenya. (Government of Kenya [GOK] ,2010) Milk consumption in Kenya was around 3 billion litres in the year 2005 with estimated projections predicting a further increase in milk consumption ranging between 3-4% annually, which was a result of increasing population, industrialization and earnings (Government of Kenya, 2009).

Kenyan milk production locally contains the national demand, evidenced in 2005 when the national consumption was 3 billion litres. Further, state policies and initiatives adopted by the local government are envisioned to result to major improvements in the milk sector. An example

is the Kenya dairy policy document of 2004, resulting to increased production of marketed milk, distributors and an increase in milk demand all which have a positive impact on the community.it was a policy change that projected increases from 4.2 to 5 billion litres between 2010 and 2014 (Government of Kenya, 2006).

The Kenya Dairy Board in 2009 approximated Kenyan milk production to be around 4 billion litres and additionally revealed majority of milk production in Kenya is largely by small-scale farmers contributing around 80% to national cake. The small-scale farmers incorporate practices like stall-fed cut-and-carry systems, nutritional supplements and feeds and local grazing in the fields. Hybrid breeds are tended.

The production practices are dependent on the climatic conditions of the locality, land productivity and existence of infections. Locally, dairy farming was enabled by elaborate doctrines, organizational structures established by successive administrations; existence of dairy breeds; climatic environment suitable for dairy farming and the livestock keeping tradition (Thorpe et al, 2000)

In Kenya, the milk-processing sector is composed of established, medium and small-scale units. The Kenya Creameries Corporation (KCC) processed all milk locally up to around 1990 when other establishments started coming up. (Dominguez-Salas et al., 2016). Despite market liberalization and realignments in the milk industry, poor leadership and political rent-seeking behavior resulted to the death of KCC in the 1990s. As a result private establishments were encouraged to participate in the market through other large-scale processors. Majority of private units commenced production in 1992 have continued to increase. On average, Brookside Dairy Limited processes around 400,000 litres daily; Githunguri Dairies processes approximately daily,

while The New KCC( with a market share of 37%) processes 450,000 litres daily during peak season,.

New KCC manages an impressive portfolio of 11 cooling plants and factories, 12 sale depots locally and has marshaled a plan improving its processing power greatly by enhanced milk delivery as result of good relations with milk producers. Mergers, such as the one between Brookside and Spin Knit Dairy, has seen Brookside expand its operations and production up to 600,000 litres daily from 450,000 litres (Standard newspaper, published on 23/03/2010). Further expansion plans has seen Brookside Dairy secure a processing capacity of 750,000 litres daily. The Kenya Dairy Board data indicate Brookside as the leading processor in December 2009, although the New KCC surpassed them with a processing power of around 620,000 litres of milk. Further, Brookside maintained a 40% share of the local dairy market, with an estimated 120,000 milk producers (7% being commercial farmers and 93% small scale farmers). (Business Daily posted Friday, February 19, 2010). According to Githunguri Dairy Farmers Cooperative website, it has an processing capacity of around 170,000 litres daily despite the local milk industry major contribution to the national GDP, wealth creation and food security; the sector still encounters industrial, financial and organizational challenges in production, processing and marketing (Karanja, 2003).

The above challenges affect the capacity of the local sector to dominate domestic and regional markets. Key obstacles to dairy production locally have been revealed as seasonal productions, insufficient quantity and poor feed quality, reduced use of animal feeds or supplements, and substandard animal husbandry and farming traditions. Inaccessibility to breeding, vetenary health

and financial facilities coupled with the limiting cost of artificial insemination (AI) are other challenges facing the industry. Milk producers in some localities complain of poor infrastructure , reduced milk collection points , ineffective marketing platform, poor communication and preference between research, extension services and educational programs.

Processing of milk and its marketing is also hindered by other factors. Marketing specifically encounters infrastructure problems occasioned by bad roads and insufficient refrigeration systems. Substandard infrastructure within the small-scale settings impacts milk transportation, poor electricity connectivity has stagnated the creation of refrigeration systems. Consequently, the period around March and June reports increased cases of milk spoilage as well as surplus. Further, reduced and inconsistent farmer payments during this duration is also greatly. Recently electricity costs and fuel prices have reported increases, this development has the ability to influence the cost of production and eventually affect market prices. Equally, a large number of processors fail to meet installation capacities and encounter stiff competition from the flexible, ready informal market. Seasonal fluctuations in milk production and farm gate prices have also indicated impact on profitability.

In Kenya, 63% of the citizenry benefits from SACCOs which aids in its social-economic development since they allow different financial transactions. Wambugu et al. (2011) avers that the Kenyan dairy industry improves the living standards through economic and nutrition. South Africa boosts of the most advanced production mechanisms as well as producing 2,500 liters annually per cow compared to 800 liters per cow in Uganda,1,000 litres per cow in Tanzania and 1,800 litres per cow in Kenya (Food and Agriculture Oorganization, [FAO] 2009). Countries such as China, India and Australia benchmark the dairy industry in Kenya since they have similar structural systems to the one in Kenya due to low cost based on rain fed pasture production

Milk produced in Kenya is mostly done by smallholder agriculturalists who own between 1 to 3 cows in small pieces of land less than two hectares. The smallholder farmers form part of the agricultural MSEs in Kenya aimed at increasing productivity and efficiency along the finance value chain, initiating entrepreneurship, while emphasizing the concepts of market integration, competition, growth and efficiency (Karanja, 2003).

The 1954 Swynnerton colony policy paper plan gave Africans a right to engage in both crossbred dairy cattle production and commercial agriculture. Further in support of dairy production by the European settlers there was establishment of veterinary research laboratories, the Research and Insemination Station. Formulation of the Dairy Development Policy of 1993 led to the liberalization of milk marketing effectively ending KCCs monopoly in milk marketing. This was the major policy change in daily industry in Kenya , which led to increase of socio – economic benefits to small scale producers. Kenya's dairy sector has significantly contributed towards national economy but still faces technical, economic and institutional challenges , which affect its ability to compete in both domestic and regional markets.

## 1.1.3 Emergence of Co-operative Societies in Kenya

According to Cropp and Truman, (2001) the formation of the first cooperative society was in England in 1844 during Britain's industrial revolution. In Africa Cooperative development is phased into two eras, the post-independence 1960's to 1980s and liberalization era in early 1990's. In both phases, the African governments where officially authorized to direct and

manage the affairs of the cooperative societies, which enjoyed monopolies in trade, were rarely truly voluntary, autonomous or independent.

In Kenya, Lulumbwa Co-operative Society was the initial dairy society by the European farmers. In 1928 Nanyuki Cooperative Creameries was formed by African smallholder farmers who struggled for the establishment of their own dairy cooperative societies. Later in 1931, the Kenyan government registered KCC, KFA and regulatory body of co-operative operations. This led to cooperative creameries uniting under the Kenya Cooperative Creameries which later allowed registration of other cooperative which initially companies (Cropp & Truman, 2001).

Though the realization of Structural Adjustment Programmes (SAPs) by the Kenyan administration in 1980, economic development was further encouraged through a paper in 1986 on "Economic Management for Renewed Growth". In 1987, through another paper on "Renewed Growth through the Co-operative Movement" management committees of the cooperative society were given the mandate of establishing and supervising their respective societies while the advisory role was played by the government (Cropp & Truman, 2001).

The Kenyan government had predicted the downfall of the co-operative sector and identified the need to conserve and preserve social and economic development. This was largely done by the formation of Co-operative Societies Rules, which were introduced in the Co-operative Societies Act. The mandate of the Co-operative Tribunal Court was refurbished through formation of specialized Co-operative Commercial Court whose main objective is to dispense backlog cases and fast track upcoming cases. SACCO's are of great significance towards economic growth and

to appreciate its growing complexity, SACCO Societies' Act NO. 14 of 2008, Laws of Kenya was enacted. The Act created a SACCO Regulatory Authority (SASRA) a body whose role is to regulate deposit taking SACCO's and also Ethics Commission for Co-operative Societies (ECCOs) who drafted management guideline and corporate governance (Cropp & Truman, 2001).

# 1.1.4 Kiambu County Dairy Farmers' Co-operative Societies

Kiambu County is a county in the former Central Province with twelve constituencies/ sub counties. This includes Kiambaa, Githunguri, Kabete, Lari, Limuru. Gatundu North, Gatundu South, Thika, Ruiru, Kikuyu, Juja, and Kiambu constituencies respectively. Kiambu County Annual Report of Daily Co-operatives provides Ruiru, Gatundu North, Thika and Juja sub-counties produce and hawk locally while the other 8 constituencies produce 108.9 million liters per year, Githunguri constituency producing majority of the milk. According to the Ministry of Agriculture in Kiambu Constituency there are approximately seven(seven) cooperatives societies in Kiambu county. They include Githunguri Dairy, Ndumberi Dairy, Kiambaa Dairy, Limuru Dairy, Kabete Dairy, Uplands Dairy, Lari Dairy and Kiriita Dairy. Most of the co-operative societies receive raw milk, process and package it into various form, which include fresh, mala, yoghurt, butter and/or ghee products among other.

Milk production in Kiambu county is largely sold through co-operative societies and hawking. Hawking is highly experienced in the county especially around in Nairobi County since the two counties geographically sit next to each other and produced by small scale milk farmers. Most of these small-scale farmers market their produce directly to private dairies. This is preferred by the small-scale farmers as payment is done in monthly lump sum while others prefer hawking of milk and getting daily income, despite the growth of dairy farming in Kiambu County, there are a lot of problems experienced by the farmers (Wanyama, 2008).

In Kenya, Githunguri Dairy Farmers Co-operative Society in Kiambu County, serves as an example. Established around 1961 as a government initiative, it rapidly developed with the society membership growing from 31 to around 9,000 by 1998. Githunguri's milk collection was negatively impacted by the death of the Kenya Co-operative Creameries since it lacked its own processing unit. As a result of hardships in marketing farmers' produce, the society membership suffered drop in membership greatly. The society however gained a lifeline as a result of the liberalization of the cooperative movement in 1997 ,although shortly (Wanyama, 2008).

Management enhancement was noted since Githunguri Dairy Farmers Co-operative was the first dairy processor and movement locally to be certified. The certification implies that the cooperative's standards in its production processes meet the preferred, speculating and managing risks as a result of scientific hazards within the production process and marketing (Wanyama, 2008).

## **1.2 Statement of the Problem**

Smallholder dairy farming offers regular income and asset accumulation to families through economic growth and wealth creation Wambugu et al., (2011). However, the dairy sector and the enterprises that operate in there like cooperative societies have faced challenges influencing the performance of both well performing and not well performing. According to Karanja (2003) factors that could influence poor performance of cooperative societies particularly in the liberalized era include lack of training and unpreparedness by cooperative societies to modernize and embrace change. Other reasons are poor marketing strategies and competition from other stakeholders, lack of essential services and poor management and leadership since majority of leaders are either illiterate or with low education levels, exposure and trainings. In addition, mismanagement and corruption could also influence performance of dairy cooperative societies.

The resurgence of cooperatives in developed countries has been associated with a number of changes including; the abandonment of planned economies in favor of economies liberalization, globalization of production of production and democratization but despite identifying the drivers of growth of cooperatives the paper failed to explain the factors affecting performance of cooperatives societies. A study by Mahazril, et al. (2012) focused on strategic planning and members participation in Malaysia as indicators influencing performance. In India, Deshmukh (2014) discussed the following five factors as influences of growth and performance of dairy sector focusing on government regulations, farmer level capacity building, infrastructure management and literacy movement. Unlike Pathak, and Kumar (2008) who sought to determine; this study will focus on performance of cooperative societies on the dairy industry.

A few studies on cooperative membership in Africa exit. For example, Chagwiza, et al. (2016) identified a number of indicators as the ones that impact society membership within dairy producers in Selale, Ethiopia. These included the ratio of milk earnings to total family earnings, and total milk earnings, ratio of crossbreed cows to the entire number of cows in the herd (measure of technological advancement). A study of Wanjala et al. (2014) identified the following assessing performance and structure of western Kenya milk performance; cooling plants, low quality milk, unmet demand and growing population and marketing strategy. Nyambura (2014) established income levels of farmers, fragmentation of land, and training of

farmers and management skills of co-operatives influences performance of coffee cooperatives while this paper will examine dairy cooperative membership. The others were commercializing milk, production of milk, pricing of milk, household level processed milk Further, Wanjala et al. (2014) assessed the relationship between milk market performance in Western Kenya and found that inadequate cooling plants, low quality milk, unmet demand and growing population and marketing strategy as the problems facing the diary sector. Despite studies done on performance of cooperative societies, no specific research on the analysis of determinants affecting performance of the dairy industry in Kenya a case study of selected cooperative societies in Kiambu County. In this study the research question that was answered is: What is the relationship between organisational factors (management, marketing and training) and performance in dairy cooperative societies in Kenya?

## **1.3 Objectives of the Study**

The general and specific of this study were as follows:

#### **1.4.1 General Objective**

The general objective of this research was to analyze determinants of performance of the dairy industry in Kenya: a case study of selected cooperative societies in Kiambu County.

## **1.4.2 Specific Objectives**

In line with the stated general objective, the listed objectives of the research were-

- i. Determine the extent to which management of co-operative societies affects performance of selected cooperative societies in Kiambu County.
- ii. To examine the extent to which milk marketing affects performance of selected cooperative societies in Kiambu County.
- iii. Identify the extent to which training of staff affects performance of selected cooperative societies in Kiambu County.

#### **1.4 Research Questions**

- i. What is the relationship between management style and performance of selected dairy cooperative societies in Kiambu County?
- ii. What is the effect of milk marketing on the performance of selected dairy cooperative societies in Kiambu County?
- iii. What is the influence of training of staff on performance of selected dairy cooperative societies in Kiambu County?

#### **1.5 Significance of the Study**

This research is beneficial to the management, employees and customers of dairy cooperative societies in Kiambu County. Through these findings, various stakeholders (management, cooperative members, employees and customers) will be able to adopt findings to enhance the style of management, identify the most effective training of staff, and implement the most effective milk marketing strategies that would ensure satisfactory performance of respective dairy cooperatives in Kiambu Count and in other parts of Kenya. Other societies can also use the findings to address the issues identified in this study in order to enhance their performance.

Further, Scholars will be able to add to the existing knowledge and get information about the milk industry in Kenya. The appraisal of literature in this study brings out several variables that analyze determinants of performance of the dairy industry in Kenya. Though many variables have been discussed in literature around performance by different authors, this thesis demonstrates the nexus between three organizational variables and performance of the dairy sector in Kenya, these are management style, milk marketing and training of staff members. This brings clarity to how there variables affect performance and the findings can guide specific actions in these three areas since these organizational variables have been found to significantly

affect performance of the dairy cooperative societies

Resulting from this study, the cooperative societies will be able to understand how management, milk marketing and training of staff affect the performance of the society. This will help cooperatives work effectively and efficiently towards adoption of best-practice management style which would reduce costs and increase, productivity that will in turn boost sales hence overall performance of the dairy SACCOs. The study further clarifies the need of training of staff, which helps in acquiring skills that subsequently contribute to building self-esteem. It is emphasized that skilled staff is an imperative for satisfactory performance of any organisation including the dairy cooperative societies.

#### **1.6 Scope of the Study**

The research was restricted to exploring the nexus between three organizational factors, management style, marketing and training on performance of the dairy industry in Kenya. The focus of the study was only two cooperative societies in Kiambu County.

#### **1.7 Operational Definition of terms**

Dairy Cooperative Societies	Farmer-owned society engaging in number of roles aimed
	at offering membership better market for their milk produce
	(FAO, 2010)

**Performance of Dairy Cooperative** The progression of membership over time and gradual increased yield of milk products hence accruing member's welfare (Munene, & Muturi 2013).

Management of cooperatives The ability of the top leadership to effectively and

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efficiently run the cooperative to achieve maximization of output yield. (Walshe et al., 1991)

- TrainingsIn thus study training is conceptualized as developing skills,<br/>knowledge as well as attitudes needed in performing a job<br/>or a task by individuals (Armstrong, 2005).
- Marketing In thus study marketing is conceptualized as exploration, creation and delivery of value that satisfying customers in the targeted market (Kotler, 1999).
- Smallholders Dairy Farmers One of two milk production systems in Kenya where farmers keep dairy in small-scale capacities (Muriuki, 2011).

#### **CHAPTER TWO**

#### LITERATURE REVIEW

### **2.1 Introduction**

The chapter details existing publication from previous studies done by other researchers. It also consists of theoretical and empirical review, conceptualization and operationalization framework, which helps understanding the problem under investigation. The Economic Game Theory of Cooperatives, Scientific Management Theory, Agency Theory and Theory of Transfer of Learning underpin the study.

### **2.2 Theoretical Review**

This study conformed to three theories, namely Economic Game Theory of Cooperatives Scientific Theory of Management, Agency Theory and the Theory of Transfer of Learning

#### **2.2.1 Economic Game Theory of Cooperatives**

The Economic Game Theory of Cooperatives, was developed by Nourse in 1922. The philosophy of this theory is that farmers join cooperatives so that they can jointly market their products. The strategic decision on handling the decision making process where these products will be sold lies with the management. Where products are sold in large scale they tend to give the supplier (cooperative) a competitive bargain with other suppliers in the market.

In addition, it is beneficial to the cooperative as it avails economic of scales in production and product operations. The theory also stands for preserving the capital of members. This frequently happens when the products of the members are facing a stiff competition at the market. The cooperative will withdraw the products from the market as a way of preserving time and capital and start again. Products are usually homogeneous which makes it easy for the cooperative leadership to market. Joint market helps in bulk marketing, which enables the product to sell quickly in the market. This will ensure that farmers are paid for their products on time and the cooperatives goals are achieved. It further ensures decision made enhance the prosperity and viability put in place by management.

Management influences significantly performance of cooperatives societies. Firstly, it aims at making strategic decisions that will better the cooperative society. This is important as they are answerable to the members on the decisions made. These decisions made are usually categorized into three: decision – making under certainty. Whichever category is used to make a decision by the management, its objective should be to maximize gains and minimize loses to the farmers and ensure products movement.

Secondly, it helps in making decisions on marketing products for the cooperative. When products for the members are sold in bulk they gain competitive advantage from joint production or marketing of their goods and enjoy the economics of scale. This makes producers to sell their produce in large scale markets and when the market doesn't favor them they hold the products until the market is favorable. To maintain competitive advantages many cooperatives usually return to scale. Variation in economies of scale are influenced by variance in technology and competitive environment.

#### 2.2.2 Scientific Theory of Management

The theory tries to detail the importance of efficient accomplishment and performance of work in an organization. Developed by Taylor (1895) and also known as Taylorism it analysis and synthesizes work flow of organizations. Taylor identified 4 principles of scientific management which are applied in different organizations and in respect to these research cooperative societies.

First, development of a science of work. Achievement of cooperative societies is measured by output which is mainly satisfaction of its members through profitable sale of their products. For cooperative societies to achieve these, managers should ensure good governance of the cooperative societies by improving gears and workplaces suitable for accommodating for worker's industrialization. Further still emphasizes on profit maximization under manager's good organization and strategic planning by utilizing the workers through controlled mechanism and monetary incentive. They observe the necessity of focusing on training employees and/or support staff rather than finding the most competent individual for the available occupation. One of the main objectives of the theory is to achieve efficiency in the organization and reduces the cost of production through increased output.

Second, scientific selection and training of workers in the cooperative society. According to Frederick Taylor employees have dissimilar talent and skills and therefore they should be tailored to a workforce which fits their individual skills. To ensure co-operatives' employee skills is effectively maximized, the cooperatives are encouraged to allocate the most qualified employee to a specific job. Where the management appropriately selects qualified staff it attains their utmost potential. Ezeali and Esiagu, (2010) notes that, for realization of organizational goals, recruitment of quality staff ensures effective and efficient service delivery. Third, sensitizing staff and directors on the advantages of Taylorism to improve efficiency of cooperative society. Fourth, specialization and teamwork amongst staff members and directors' help in the realization of administration and automation of systems. This theory was used to anchor the management variable in this study.

### 2.2.3 Agency Theory

Agency theory concerns the existing relationship between and organization / individual (agent) is authorized to act on behalf of another (the principal). The resultant problems arise between agent and principal is because of the inconsistent objectives of and agent differing with those of the principal (Alchian & Demsetz, 1972). The relationship between an agent and a principal are normally explained in the agreement between an agent and a principal (the contract usually couples the agent to act in the interests of the principal. Moral hazard occur in such relationships because contracts may be incomplete (Royer, 1999) the two crucial domains of agency theory are risk sharing implications as well as measurement problems. Agency theory tends to focus on agency relationships. Existence of agency relationship is exhibited when two parties work together and participate in an engagement where the principal delegates roles to another party to act on their behalf (Schwieterman et al., 2018). A critical hypothesis supporting the phenomena is existence of possible conflict.

Agency theory therefore explains interrelationship in the cooperatives organizational structures since managers (agents) may not represent the goals of owner-members who are the principals in this case. The major challenge is management of capital structures that in turn ensures the promotion of low agency costs. When agent principal problems arise, cooperatives are likely to

result in member dissatisfaction. According to Walshe et al (1991) empirical studies reveal absence of financial management discipline principal agents arise in the cooperative firms, creating incentive programs for managers to motivate managers to align individual goals and those of their agency problem in the cooperative society set up. In this regard, young farmers as well as large scale produce may feel there is inappropriate focus by the manager regarding focus on the return of equity by the mangers. In this study, this theory is reflected in the manner in which managers of cooperatives deal with members of the cooperatives with regard to motivating them to produce in order for the organisation to meet the needs of both the members and other stakeholders.

## 2.2.4 Theory of Transfer of Learning

Theory of transfer of learning refers to the acquisition of knowledge in a specific field of learning and use skill acquired in a different environment in a different task. Positive transfer of training involves learners using their skills attained in their workplace successfully. This study focused on training conducted by cooperative societies, their effectiveness and relevance of such training. Training if any should improve performance of dairy cooperatives.

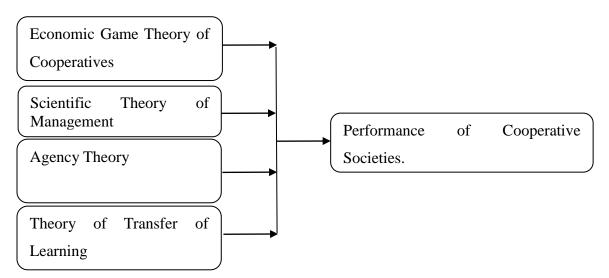
Transfer of training is integral in the continuation of application of skills knowledge as well as attitudes especially in the learning environment to the work environment. This concept closely relates wile transfer of learning, which includes application of knowledge and skills which are transferred where learners to another learning situation Perkins & Solomon (1992) posits in a move general view that skills transfer takes place din scenarios where the content of learning materials has similar characteristics of interaction. Component objects signifies physical models that help in transferring symbolic knowledge.

Ockley (2017) argue that the principal problem is designing teaching methods that aid transfer of knowledge and skills. In this regard an anchored instruction (cognition and Technology Group at Vander Bilt, 1990) came up with and approach that enables education process as a result of learning experiences in learning environment that inculcates invaluable properties in apprenticeship training. Empirical studies in the environmental learning context reveal that verbal learning may or may not have significant impact. (Fernaudes & Gleuberg, 1985). The mismatch is realized especially the capacity of memory cues and time the memory test. For the purpose of this study this theory explains the training that the management of cooperatives organize and conduct for members to equip the latter with skills to produce at higher levels.

### 2.2.5 Theoretical Framework

This study was underpinned by four theories as shown in Figure 2.1 – These are Scientific Theory of Management, Agency Theory, Economic Game Theory of Cooperatives, and Theory of Transfer of Learning.

# Figure 2. 1 *Theoretical Framework*



Source: Author (2020)

## **2.3 Empirical Review**

In this section, a review of empirical studies on the relationship between management, marketing, training and performance presented knowledge gaps in literature identified. Empirical literature were reviewed on management style, followed by marketing and lastly training

## 2.3.1 Management of Cooperative Societies and Influence on Performance

According to Tibbs and Reuben (2015) management competence includes the skill of identifying what should be done and how it is going to be done in the most efficient and effective way possible. This competence required by managers for the achievement of the organizations objectives through effective and efficient performance. Since there is an ever-changing operating environment, the role of managers today has become more and more complex. To ensure satisfactory organizational performance managers have to deal with the complexity and speed of change that is occurring in the organization's environment both internal and from the external

environment. In Kenya, collapse of dairy cooperatives may also be a consequence of divestment of cooperative adminstration that leads to unchecked and unregulated member autonomy over all aspects of cooperative activities.

In a research by Tibbs and Reuben (2015) on the effects of financial factors on performance of dairy societies in Kericho County, Kenya, they observed that for cooperative societies to enhance performance influencing business enterprises, implementation of strategic plans should be observed through structured and focused approach. They further observed that capital formation, entrepreneurship growth, utilization capacity, technological adoption and competition influence strategic plans. Nyambura (2014) sought to establish factors influencing performance of Coffee Cooperatives in Kangema Constituency, Murang'a County, Kenya and found that problem solving skills for managers are important at any work place and they have to learn how to confront and handle difficulties by implementing strategic plans. Stainsby (2007) notes that strategies should be developed to help managers able to cope with difficult situations to see the way forward.

Different stakeholders in cooperatives societies are part of decision-making but the membership is the top most organ. Membership is governed by the cooperative's principles, which guide the decision-making processes. Deshmukh 2014 observes that management structures of daily cooperative societies get complicated due to democratic principles of decision making which leads to conflict between the owners and managers. A balance between the two should be created for good progress, which can happen through monitoring of the cooperatives financial function that assist managers in performance of their roles and decision making processes. Nyambura (2014) sought to establish factors influencing performance of coffee cooperatives in Kangema constituency, Murang'a County, Kenya and found out that good management skills enhance the performance of cooperatives societies. Aizenman et al., (2005) acknowledges management skills help cooperatives staff to handle all risks that sustain to performance.

Governance intended to ensure that the organizations structures, functions, processes, and traditions run in such a way that they achieve their objectives in a productive and transparent manner. Through efficient management, strategic planning and equitable resource allocation, good governance is achieved and adds value to performance in the organization.

A study by Munene and Muturi (2013) sort to find out obstacles encountered by deposit-taking SACCOs regulatory compliance in the country. Descriptive survey design was used and on its findings governance challenges constituted; managerial capacity at board and staff level that influence performance.

Barasa (2014) sort to find out components affecting the performance of SACCOs in Kenya. A case of cooperative societies in Bungoma county and the objectives of the research were; to examine how corporate governance impacts performance , examine the extent at which the membership commitment affects performance; to establish how motivation influence performance; evaluate how cooperative ethos affect performance and to determine how technology influence the results of SACCOs in Bungoma County. This research applied descriptive survey and applied qualitative and quantitative approach. The research involved SACCO members in Bungoma from each nine wards. This totaled to 45 and 15 key informants consisting of five CEOs, five sub country administrators and five government officers. Data was collected using questionnaires. The findings indicated that governance influences performance

though political interference.

Effective management of Sacco's is highly determined by the managers who are tasked by shareholders in day-to-day administration of the Saccos. Mwangi (2013) sort to find out components impacting dairy cooperative societies performance in Mathira and Kieni constituencies, Nyeri county, Kenya and found out that management is a preserve of professional administrators who are employees of dairy cooperatives societies and equally accountable to membership. Mwendwa (2016) in his study on factors influencing the performance of selected "matatu" sacco societies operating in Kitui county Kenya and one of his objectives being to assess how management skills and practices influence the performance observed that performance of Matatu SACCO in Kitui County was influenced by management skills, manager's levels of education and practices.

A significant growth in the results of the cooperative has reported after the establishment of a new processing unit in 2004, with the individual membership surpassing 17,000 and further clamour to join the cooperative was noted. This has resulted to exceeding its capacity on membership demands (Wanyama, 2008).

A group of around 300 staff manages existing expansive activities of the cooperative. Unskilled labor pooled from within Githunguri, with administrative employment force being the only one sought nationwide and appointment being completely on merit basis. This is one aspect this study investigated, the appointment of managers of dairy cooperative in Nyeri County. The working force has established bodies that advocate for their rights as well as better remuneration with the administration of the societies. The resultant effect is cooperative societies have the ability to attract and retain capable working force compared to the period of government

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influenced employments heavily relying on the input of the Commissioner of Co-operative Development (Wanyama, 2008).

The rapid growth of the dairy society has further been illustrated by Githunguri becoming the leader in the milk processing industry and cooperative society to achieve certification as complying with the globally recognized Food Safety Management System based on ISO 22000:2005 standard. The certification implies that the cooperative is referencing its production processes to the best standards on food safety by systematically determining, evaluating, speculating and managing risks arising from scientific processes along the production channel to transport, preservation, distribution and marketing. This study investigated the extent management of dairy cooperatives influence their performance in Nyeri County.

Njoroge (2015) conducted a study on factors affecting business exploitation by entrepreneurial tree farmers in Lari District of Kiambu County, applying a survey design. The research sought input from 2,500 small scale tree farmers within Lari District, with the investigator adopting the snowball sampling technique in identifying participants. 385 farmers made the sample size, with structured questionnaires being applied in the collection of primary data that was subsequently analyzed by descriptive statistics and inferential statistics in form of multiple regressions. Factor analysis indicated four factors showing major impact towards planting of the improved eucalyptus trees. Within agroforestry, these were predetermined facts. Analysis by multiple revealed that attention to technological opportunities offered new concepts on how entrepreneurial tree farmers, limited on innovations, and may further explore better innovations. To inspire investment in tree farming and increase demand for improved trees varieties, educational training and accessibility to information on availability of the improved varieties needs to be more entrepreneurs friendly.

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Njoroge (2015) conducted a research on institutional utilities and performance of cellphone companies in Kenya. The results revealed human capital having a positive major impact towards performance of cellphone companies.in explaining the variation of performance of the cellphone firms, the role of technology was critical. In its recommendation, that human capital was identified to be a major contributor in achieving performance and managers ought to implement further trainings aimed at improving human capital skills. It concluded that, there is urgency for firms to explore and embrace advanced technology inorder to be flexible and increase results. It also recommended advanced analysis be conducted on the same subject in other institutions or sectors.

Wang and Poutziouris (2010) found out that the existence of a positive and major nexus between risk taking and firm performance. He also found out that risk taking companies show ability to record impressive development as compared to average risk taking companies. Trochim and William (2005) found out that innovation, pro-activeness and risk taking are independently and positively correlated with organization performance.

## 2.3.2 Milk Marketing of Cooperative Societies and Influence on Performance

A number of approaches have been advanced in publications towards the analysis of components affecting the decision on market channel, with existence of decision making on a number this research is the their reviews of options. A major distinction noted between Mburu et al. (2007) which reviews that collapse all the market alternatives in to a binary outcome whereas the present research avoids this. Binomial logit and probit techniques are preferred for analysis dealing with the decision on the two groups.

Staal et al., (2006) studied the small scale farmer accessibility to varied milk market channels in Gujarat, India. With the research applying a two-step analysis initially to elaborate milk market channels applying probit model as the advanced stage adopted McFadden's choice model, applying a conditional logit to model milk outlet decision, and their determinants. From the research, it was established that important milk marketing channels as sales directly to households, informal private traders and marketing by cooperative movements. It further revealed that increased number of adults in a family setting encourages marketing by local private trader channels or cooperative societies compared to individual clients. Families with employed assistance within their operations showed preference towards private traders and cooperatives than the individual customer link. Family settings with high acreage on land ownership showed reduced preference to marketing by private traders link or cooperative societies. The analysis indicated that milk farmers reduced preference to marketing channels offering cash payments or on credit terms than those offering monthly payments with contract agreements. A major distinction between Staal et al. (2006) analysis and the current analysis Staal's adopted conditional logit model that is often applied when data is made up of choicespecific features instead of individual-specific attributes.

The research utilizes the multinomial logit approach, which examines the decision on the market on the premise of individual decision maker than the choice itself. Shiferaw et al. (2006) applied descriptive statistics in examining socioeconomic assessment of legume production, technological decisions, market linkages, organizations and poverty Ethiopia. The analysis however avoided comprehensive econometric modelling in testing correlations and cause as well as impact links among the variables. The distinction between the analysis and the current analysis is that the previous adopted descriptive analysis while the current analysis adopted a

quantitative econometric analysis in estimating small-scale farmers' decision-making on marketing.

Evidence has shown that despite descriptive statistics offering critical insights on behavioural trends, very little is provided when applied in dealing with intricate interrelationships or trends enabling observed phenomena common with quantitative analysis. Murage and Ilatsia, (2011) analyzed the determinants of milk farmers' use of breeding services in Nyandarua and Kiambu districts of Central Kenya. The research applied the multinomial logit econometric model since it intended to analyze artificial insemination (AI), natural bull service, and a combination of AI and bull services.

Ayuya et al (2012) reviews is the common application of the multinomial logit model in identifying the determinants of choice. It is the preferred model for choices relying on the characteristics of the decision maker than the choice. As a result, the previous reviews together with this research have a shared theoretical approach even with analysis of varied choices .

Marketing is obtaining needs and wants through creating and exchanging value with others via social and managerial processes (Kotler & Armstrong, 2010). According to Fafchamps (2004), regional food security is achieved through a well-integrated market system where effective allocation of product resources is gained. This has resulted to globalization of the daily industry, domestic, trade policy reforms and high prices for dairy preferences.

According to Food and Agriculture Organization (2010) high prices in the daily industry have resulted to replacement of inexpensive food in the manufacturing industry. Global dairy sector is masked by higher price outlook in the dairy industry. In Kenya, liberalization of milk marketing

was in 1992 ending the 60 years' dominance of KCC and decontrol of milk prices (Ngigi, 2005). This led to both small scale milk retailers and formal private processors taking over milk marketing and processing roles. The fall of marketing in the cooperative societies in the 1990s was experienced because of the sale of raw milk by farmers to the small-scale milk traders. (Leksmono et al, 2006). Brookside, Delamere and Ilara processors were amongst the first formal private processors in the country.

Kenya has two milk marketing channels system, formal and informal. Marketing system is defined as a series of movement of commodities being transacted between the producer and the final consumer. These include milk collection from farmers to the producers, processing, packaging, transporting and collection of the dairy producers to the end customers point. Usually the milk chain has various key players involved. They include; consumers, producers and market intermediaries or middlemen. According to Milk GOK/FAO/TCP/KEN/6611 project findings, Kenya's milk marketing system has at least 8 different marketing channels as shown in Table 2.1.

### **Table 2.1**

Milk Marketing Channels	
Milk Marketing Channels	Number of intermediaries
Producer-consumer	0
Producer-milk hawker-consumer	1
Producer-processor-consumer	1
Producer-processor-retailer-consumer	2
Producer-dairy co-operative-processor-retailer-consumer	3
Producer-milk transporter-processor-retailer-consumer	3
Producer-milk trader-processor-retailer-consumer	3
Producer-dairy coop-milk transporter-processor retailer- consumer	4

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Both small-scale milk traders and formal private processors taking over milk marketing and processing roles ensure good quality milk production, which are sold to the processors. The following are some of the measures used by consumers in determining good quality milk and milk products in the market; good predictable taste and flavor, maintaining original nutritional qualities, good appearance, safe from harmful micro-organisms and substances, and has a long shelf-life. Milk processors ensure good quality milk production by properly sterilizing equipment used and disease free animals.

Transportation of milk and milk products is expensive for both small scale farmers and individual farmers which makes it difficult for milk marketing. This encourages both small scale and individual farmers join cooperatives which lower the cost of transportation and help reduce spoilage of milk as collection and spoilage is done in a faster way. Joining of cooperatives also opens up milk markets for both small scale and individual farmers.

Contributing factors toward the rise of performance in cooperatives include technological innovation, production process and quality services; it involves either product or process. Technological innovations in the cooperatives help in collectively giving farmers access to the market using the resources they have resulting to product development activities and market development activities. Cooperatives act as a source of information to farmers which enables them to generate higher income through value addition to their products.

## 2.3.3 Training of Cooperative Societies Staff and Influence on Performance

The resource-based view of the firm advances that an institution's human resource may be manipulated to secure competitive advantage (Barney 2014). Diversity within institutions' in

relation to its human resource, competitive advantage is possible incase an institution secures its staff secure value addition in its daily processes and their human resource pool is its unique utility difficult to duplicate.

Training details numerous endeavors from which institutions establish human resource that meets the required standards. The analysis evaluated the levels to which cooperatives in Nyeri County train their senior staff on business roles and its impact on results. Institutions have the ability to attract highly skilled staff and conduct trainings on staff in order to ensure they develop special capabilities required. Practices from the Strategic Human Resource Management (HRM) enable an institution to ensure that its human resources is difficult to replicate.

Cooperative movements may embrace strategic human resource management tradition to increase staff expertise and hence boosting results. The staff may be hired through rigorous selection processes aimed at identifying top talent, with studies revealing that staff selection has a positive impact on performance. Majority of cooperative society's membership elect managers who are responsible for overseeing the institution managerial. , this development may lead to election of poor managers leading to poor results by the cooperative. Further, institutions may enhance the quality of existing workforce through provision of broad training programs and growth opportunities. Studies indicate that embracing training initiatives promise positive institutional results (Powers, 1985).

The research examined dairy cooperatives' level of commitment in training its leadership and its impact on performance. Productivity from the input of skilled workforce is negatively impacted whenever they are not properly mentored or motivated. Gerhart and Milkovich (1992), conducted a study that revealed training indicated the effect of incentive compensation and performance management systems on firm performance. Further, employees' protection from arbitrary treatment formally, may inspire them to increase their effort since their efforts are recognized or rewarded .

Additionally, Chagwiza et al. (2016) observed that the manner a workplace is setup influences institutional performance since skilled and motivated staff determine nature of activities and mode of operation. This research analyses the business environment surrounding supporting managerial performance offered by dairy cooperatives.

According to Goldstein and Ford (2002) training involves meeting conditions suitable for the firm's day to day activities. Firms select employee with high ability and rare talent. He further notes that the firm will equip its employees through training to acquire unique skills needed. Cooperative societies adopt different HRM practices for example selection procedures aimed at screening the best employees. After selection, the existing employees undergo training and development activities, which help in progression of the organization. Investing in constant training of employees produces beneficial outcome to the organization.

Poor performance by skilled employees is largely influenced by lack of motivation in their jobs. Motivation in the work place refers to explained underlying activities Guay et al., (2010). Motivation of employees is majorly centered on the interest of employees as it can be a way to decrease and influence the gap between employees actual and desired dedication to the organization and motive them to work both individually and in groups. Training of organization staff member's impacts the firm's performance though incentive compensation and performance management systems.

Official complaint management in an organization protects the employee's rights and freedoms which motivates them to work effectively and efficiently and be fairly rewarded. He further

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notes that the organizational culture at the workplace influences the degree of performance by involving employees on work scheduling and accomplishment.

## **2.3.4 Performance of the Dairy Industry**

Selection of right performance drivers and outcome indicators to fit in the theory of business in a chain of cause and effect relationship, the institution gains critical knowledge on attaining its rightful competitive edge (Kaplan & Norton, 2010). The BSC is modelled to offer firms insights on managing their investment plan effectively. An analogy of the scorecard can be linked to a car's dashboard, since during acceleration it is possible to monitor the fuel gauge and get information on fuel levels, speed distance traveled. Performance of the dairy industry is referred to the progression of membership over time and gradual increased yield of dairy products hence accruing member's welfare.

According to Gibson and Cassar, (2005) profitability, market share and sales growth are some of the traditional accounting measures in performance. Enterprise performance is also measured based on a range of financial measurements such as sales level and growth, return on shareholder equity and profit to sales ratio (Wijewardena, et al., 2004).

Additionally, the Kenyan government has since 2003 been establishing varied interventions aimed at reviving the milk industry. The interventions that enabled improved milk production and marketing included, reorganization and streamlining operations of Kenya Dairy Board, ,reviving of the New KCC, financial institutions dealing with milk producers like the Agricultural Finance Cooperation (AFC) and cooperatives. Reforms on framework and regulatory regime, increased farmer milk prices as well as prompt payment by the New KCC, stimulus packages from development partners and private sector to source for more utilities in the sector, regulation of milk imports and enhanced cooperation and interactive engagements within key players in the industry that develop increased energy and proper utilization of resources. The consequence of these interventions was indicated by increased power of producer institutions being able to collectively market products and secure advisory services.as a result, production together with marketing milk products improving with the yearly milk production surpassing 4 billion litres in 2009, down from 2 billion litres . The national government as result adopted varied measures aimed at combating future increases in milk production. A key shorter measure entailed offering the Kenya Dairy Board (KDB) Ksh.300 million for purchasing surplus processed milk from the processors, financially aiding the New KCC to restructure and develop a UHT plant in Eldoret as well a condensed milk unit in Naivasha. long term, the state intends to integrate milk powder into the National Food Strategic Reserve; expansion of milk markets further from informal markets; improve production standards of dairy products; activate schools' milk feeding programme; and establishing a Dairy Development Fund to offer utilities for critical interventions in the milk sector including marketing, regulation, commodity development and adherence to quality.

The private sector hasn't been left behind in effort to combat excessive milk production, with, Githunguri Dairy in 2011 opening a UHT milk production plant. The plan was for the UHT factory enable the dairy increased milk absorption in peak season improve exportation of longlife milk to some regional markets.

### 2.3.5 Research Gaps

Reviewing existing publications, it is clear that numerous studies have been conducted outside

Africa, particularly concerning determinants of performance of the dairy industry. It is also important to note that a lot of research in his area has been conducted in United States of America and Britain. Determinants of performance are significant study that enables managers to understand which independent variables influence performance of cooperative societies. This study sets to determinant of performance of the dairy industry in Kiambu County in Kenya.

Most recent study on determinant of performance of the dairy industry was a research by Tibbs and Reuben (2015) on the effects of economic determinants on performance of dairy cooperative societies in Kericho County, Kenya; since determinants on performance of dairy cooperative societies, he recommended future studies should focus various cooperatives. A study by Barasa (2014) does not represent all co-operative societies in Kenya.

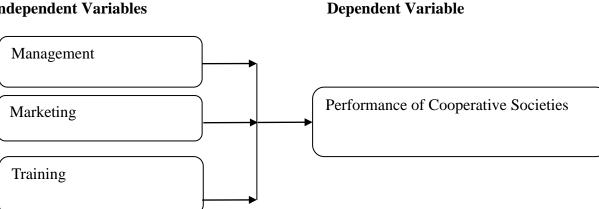
It is critical to note that, recent analyses about antecedents on performance of dairy cooperative societies especially in Kenya have focused cooperative societies in other Counties but not Kiambu County. There is no study that has been carried in Kiambu County in Kenya; this study sets to establish determinants on performance of dairy cooperative societies. Globalization and competition for productive human resources has made human resource managers to seek understanding of employee retention and to ensure symmetric performance among their cooperative staff it is against this backdrop that the research intend to bridge this knowledge gap.

## 2.4 Conceptualization

This schematic diagram presents the link between the criterion variable and predictor variables. According to Mugenda and Mugenda (1999), it presents comprehension of invaluable milestones. Thus, the conceptual framework shown below provides basis of parameters to determine the variable relationship. In this case, dependent variable is performance of Cooperative Societies while independent variables include of management of cooperative Societies, Milk Marketing and Training of Cooperative Societies Staff.

# Figure 2. 2 Conceptual Framework

## **Independent Variables**



# Source: Author (2020)

# **2.4.1 Management of Co-operative Societies**

Management is important aspect of any enterprise that seeks to achieve peak performance. Management therefore concerns planning, controlling, coordinating and motivating. These important variables dictate the art of management. In this study therefore, it is hypothesized that the cooperative management team has vest control as conferred to the by the virtue of expert authority. It is expected that prudent management would guarantee performance of the cooperative societies. Management includes organisational structure, policies, reward systems and communication. In this study, management style was operationalised using three indicators: Organisation structure, Policies and plans, and extent of organisation of dairies.

### 2.4.2 Milk Marketing

Marketing is a functional management that concerns communicating an organizations products or services to prospective buyers. In dairy cooperative societies their products are basically milk and milk products. The cooperative societies entirely rely on the marketing function to advertise as well as generation of sales that translate to organizations revenue. The generated revenues thereafter make it possible for the cooperatives meet their financial obligation and hence performance. In this study, some of the measures of the marketing variable were promotion of the cooperative society's products, Accessibity to customers (*Distribution/ place*), and quality compared to that of our competitors (*Product*). The focus was on product and place.

## 2.4.3 Training of Cooperative Societies Staff

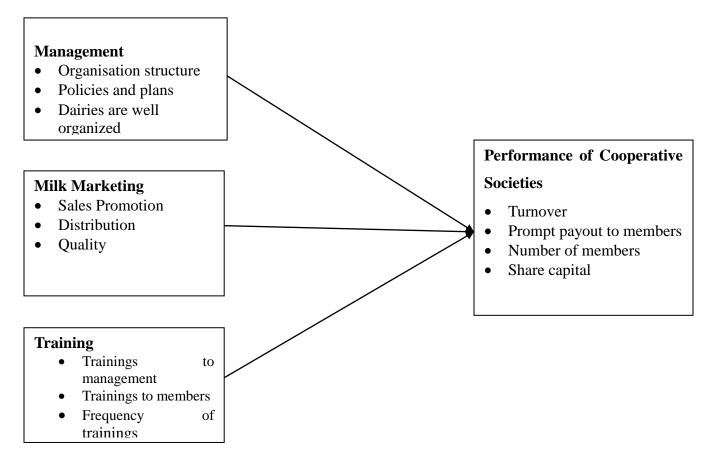
Training is a functional managerial function falling in the human resource department. Training enables employees to acquire the requisite skills when it comes to task delivery. In this view training is considered as a variable that will enable cooperatives performance since employees will be having required skills that buttress performance outcomes. Regular training enables maintenance in performance of the co-operative staff. Training can take various forms such as seminars, workshops, on-the-job training; and further education and is necessary for ensuring that there is a continuous supply of relevant skills and competences to run a business. This variable was assessed using three indicators – extent of training to management, trainings to members, and frequency of trainings

# **2.5 Operationalization**

# Figure 2.3

## **Operational Framework**

The operational indicators of the study variables are presented in Figure 2.2



While management style, marketing and training were measured using three indicators (items) each, namely management (organisation structure, Policies and plans, extent of organisation of dairies), marketing (promotion, distribution and quality), and training (management training, staff training and frequency of training); performance was measures using four items: sales turnover, payouts to members, number of members in the cooperative and share capital. The dependent variable, which is performance, was measured using four indicators. These were

turnover, prompt payout to member, number of members and Share capital

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter details the methodological approach adopted in the research and further elaborates the selection for the choice of the certain approaches as well as study methods used. Additionally, it presents research design, target population, sampling strategy, instruments used to collect data, validity and reliability of instruments, and data presentation.

### **3.2 Research Design**

The investigator employed descriptive research design for the following reasons: First, it gives room for assembling of enough data by the researcher from respective respondents. Second, it allows the use of questionnaires in collection of data since it takes a short period of time Longnecker et al., (2008). Third according to Churchill and Brown (2008), it gives accurate estimation of population of parameters. This design gave accurate estimation of population parameters. The aim of the review was describe the practice of management style, training, marketing and performance; and also assess the relationship between the three organisational factors (management style, training, marketing) and performance

### **3.3 Target Population**

In this study, the relationship between three organizational factors and performance of the dairy industry with a focus on two dairy cooperative societies in Kiambu County, which borders Nairobi city, was examined. This context was important because Nairobi is a cosmopolitan city with about five million people who need to be fed. As such, the understanding of factors that would affect the production of milk that is necessary to supply Nairobi was appropriate. The dairy cooperative societies were identified as A and B for confidentiality purposes.

According to the Ministry of Agriculture in Kiambu Constituency, A dairy co-operative society A has of seven management committee, 12 top management and 20 staff members while cooperative society B comprises of eight management committee, 12 top management and 15 staff members respectively as shown in Table 3.1. They formed the target population of the research. The A and B dairy cooperative societies were selected since had the highest number of members in Kiambu country. The composition of members in each of the dairy cooperative societies.

# Table 3. 1Target Population

Target Population	Number
(Category)	
Management committee	15 (A: n=8; B: n=7)
Head / Assistant Head of Procurement	4
Head / Assistant Head of Marketing	4
Head / Assistant Head of Operations	4
Head / Assistant Head of Finance	4
Head / Assistant Head of Human Resource	4
Quality / Assistant Head Manager	4
Staff Members	35 (A: n=20; B: n=15)
TOTAL	74

As see from the Table, there were two each members from each of the dairy cooperatives A and B – the head and the assistant.

### 3.4 Sample Survey

Since there were other dairy cooperative societies in Kiambu county and only two of these societies were surveyed, this constituted a sample survey of 74 respondents from the two cooperatives (A: n = 39; B: n = 35). The study comprised a complete enumeration of the target population in the two cooperatives which means complete count of the target population. The aim of this approach was to providing accurate characteristics of the population. Since the population was made up of 15 management committee members, 24 top management and 35 staff members the study was carried out by census.

## **3.5 Data Collection Instruments**

The data collection applied herein by the researcher was cross-sectional survey to collect primary data where questionnaires with close-ended questions were used. This made it easy for the researcher to analyze data. Questions used were standardized and understandable to enable language respondent's answer without much difficulty. Consistent with Saunders et al. (2012), it was ensured that the questionnaire had similar questions administrated to every respondent.

Questionnaires were used for collecting data because they allowed reaching as many respondents as possible within limited period. It is also confidential and hence ensures collection of accurate data. The questionnaires were administered to management committee and staff members in cooperative societies A and A using "drop-and-pick later" method.

### **3.6 Validity of Instruments**

Validity refers to precision and significance of the results based on research. Cooper and Schindler, (2005) observe that validity is reached upon when questions present the correct gauge

of what they were designed to indicate. The researcher used content validity to test the validity of questionnaires used. To guarantee measure of validity, the researcher first; analysed the instruments used in the research with the relevant experts and secondly ensure accurate data entry to minimize errors. Further, content of the validity was guaranteed by the uniformity in questionnaires administration. (Kothari, 2004)

## **3.7 Reliability of Instruments**

According to Mugenda and Mugenda, (1999), reliability is the representation under the study of the occurrence attained from data analysis. The researcher conducted a pilot study to reinforce the consistency of results from the research instrument. This helped ascertain and detect any ambiguities. The pilot study collected data from the target population but the same was not included final sample. The research instrument was given to the two groups where results obtained were compared.

### **3.8 Data Analysis and Presentation**

Quantitative techniques were used data analysis. The process began with editing data contained in the questionnaire after the fieldwork. Coding of closed ended questions followed depending on related responses. The data was then entered in SPSS version 23 in order to commence analysis.

Subsequently, a multivariate regression model was used to determine the relative importance of each of the three variables (management, marketing and training) on performance. Multiple regression is a flexible method of data analysis that may be appropriate whenever the effect of one or more variables on another is examined. Cohen et al. (2003), avers that relationships may

be non-linear, independent variables may be quantitative or qualitative and one examines the effects of a single variable or multiple variable or without the effects of other variables taken into account. The regression model that was used is presented mathematically as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y = Performance of the Dairy Industry  $\beta_0$  = constant  $\beta_{1-3}$  = Régression coefficients X<sub>1</sub> = Management X<sub>2</sub> = Milk Marketing X<sub>3</sub> = Training of Staff Members  $\epsilon$  = error term

The results arising from the analyses are presented in tables..

## **3.9 Ethical Cconsiderations**

Permission was sought from the management of the cooperatives to undertake research of the selected cooperative societies before distributing the questionnaires to the respective respondents. Confidentiality of the information was assured and guaranteed to the respondents. The first aspect of research ethical compliance was to secure authorization from the university. This authorization was attached to the questionnaire to further guarantee authenticity of the research and confidentiality in addition to the NACOSTI permit, which had been applied for and obtained.

# **CHAPTER FOUR**

## **RESULTS AND DISCUSSION**

## **4.1 Introduction**

In this chapter, the results of analysis of data that were collected are presented starting with demographics, followed by reliability test results, descriptive results, correlation and lastly regression results which show the relative influence of the organizational variables, namely marketing, management approach and training on performance of the dairy cooperatives in A and B.

# **4.2 Demographics**

Out of the 74 questionnaires that were distributed, 58 were returned, representing a response rate of 78.3% and the data in them analyzed. Further, information on gender, age, education level, and the dairy to which the respondents belonged were collected from the A and B co-operative societies. The results on the characteristics of the respondents covering gender, dairy cooperative, age and highest level of education are presented in Table 4.1

## Table 4.1

				Cumulative
Variable	Measure	Frequency	Percent	Percent
Gender	Female	32	55.2	55.2
	Male	26	44.8	100.0
	Total	58	100.0	
Dairy cooperative	А	32	55.2	55.2
	В	26	44.8	100.0
	Total	58	100.0	
Age bracket	18-26	11	19.0	19.0
	27-38	10	17.2	36.2
	39-47	26	44.8	81.0
	Above 48	11	19.0	100.0
	Total	58	100.0	
Level of education	Secondary level	2	3.4	3.4
	Technical vocational	27	46.6	50.0
	University	29	50.0	100.0
	Total	58	100.0	

**Demographics of Respondents** 

Source: Research Data (2020)

As shown in Table 4.1, there were more male respondents than female, most respondents were in the age bracket 39 - 47 years (n = 26, 44.8%). While 50% (n = 29) had university education, 26 (n= 27, 46.6%) had technical vocational education while two (n = 2, 3.4%) had a secondary school education. These results suggest that the respondents were adequately educated and that the distribution across gender was fair. Further, the respondents comprised both management committee and staff (Management committee: n = 37; Staff members: n = 21)

The study administered 39 questionnaires to management committee of which 37 were filled and

returned, translating to 82.2%. Similarly, 35 questionnaires were administered to staff members and 21 were filled and returned translating to 60% return rate. This satisfactory response rate was occasioned by regular visits to A and B dairy co-operative societies. The overall response rate was 78.3% (n = 58 out of 74)

# 4.3 Reliability of data Collection Instruments

In order to ascertain the suitability of the data collection instrument was tested for reliability before they were used for collection of data in the study. The assessment of reliability was assessed using Cronbach's alpha, which evaluates internal consistency by establishing whether certain items within a scale measure the same construct validity. As recommended by Nunnaly (1978), the results obtained were consistent with acceptable thresholds since the reliability tests of all constructs yielded a Cronbach  $\alpha$  greater than 0.7. The reliability results for all the variables are found in Table 4.2

### **Table 4.2**

### **Reliability of Data Collection Instruments**

Variable/ construct	Cronbach's Alpha	N of Items
Management style	0.703	3
Marketing	0.732	3
Training	0.712	3
Performance of dairy cooperative society	0.732	4

### **Reliability Statistics**

Source: Research Data (2020)

According to Gliem and Gliem (2003) recommended that alpha value threshold should be 0.7; The in results in on Table 4.1 show that all the four scales for the study variables, namely Management style, Marketing, Training, and Performance of dairy cooperative society were reliable because their reliability values exceeded a threshold of 0.7.

# **4.4 Descriptive Results**

In order to describe the situation at the A and B dairy cooperatives regarding performance, management, marketing, and training, the participants indicated their level of agreement on a scale of 1 to 5 on a Likert scale where: 5= Strongly Agree; 4= Agree; 3= Neutral; 2= Disgree; 1=Strongly Disagree. The descriptive analysis of the responses is presnted in the Table 4.3 that follows which includes results on each of the four variables – performance, managemen stle in cooperatives, milk marketing, and training of members of the cooperatives. The level of agreement with the statements on a scale of 1 to 5 for performance, marketing, management, and training of members is a shown in Table 4.3

# Table 4.3

Description of Performance, Marketing, Management and Member training in dairy cooperative A and B

		Desc	riptive St	atistics					
	Ν	Min	Max	Mean	SD	Skewn	ess	Kurtos	sis
	Sta								
Itom/statement	tisti	Statistia	Statistia	Statistia	Statistia	Statistia	<b>SF</b>	Statistia	<b>SE</b>
Item/ statement	c	Statistic	Statistic	Statistic	Statistic	Statistic	SE	Statistic	SE
Organisation structure promotes quick decision making	58	2	5	3.97	1.01	461	.314	-1.013	.618
Policies and plans are appropriate	58	3	5	4.07	.697	094	.314	883	.618
Dairies are well organized	58	2.00	5.00	4.00	.898	301	.314	-1.070	.618
Management style	58	2.67	5.00	4.01	.695	132	.314	860	.618
There adequate promotion of the cooperative society's products ( <i>Promotion</i> )	50		5.00	4.12	.435	.664	.337	1.922	.662
Milk is accessible to customers ( <i>Distribution/ place</i> ) Our milk is of higher quality	58	1	5	4.03	.794	-1.805	.314	5.989	.618
compared to that of our competitors ( <i>Product</i> )	52	2	5	3.62	.820	497	.330	177	.650
	58	2.33	4.67	3.92	.560	-1.056	.314	1.265	.618
Marketing of products Turnover has been growing over the last two years	58	3	5	4.03	.648	032	.314	522	.618
There prompt payout to members in this cooperative	58	1	5	3.52	1.143	117	.314	857	.618
The number of members has increased in the cooperative	58	2	4	3.17	.625	135	.314	455	.618
The members share capital has increased over the last two years	58	2	5	3.36	.912	078	.314	870	.618
Performance of Dairy Cooperative Societies	58	2.25	4.75	3.52	.639	.051	.314	431	.618
Relevant trainings are provided to management by cooperative society	58	2	5	3.95	.847	439	.314	382	.618
Relevant trainings are provided to members by the cooperative society	58	3	5	4.47	.706	957	.314	355	.618
Trainings are conducted regularly	58	2	5	3.98	1.051	622	.314	863	.618
Training by dairy cooperative societies	58	2.67	5.00	4.13	.701	534	.314	744	.618
Valid N (listwise)	50								

Source: Research Data (2020)

From the rating on the measures of marketing, there was adequate promotion of the cooperative society's products (*Promotion:* M = 4.12, SD = .435) and that milk was accessible to customers (*Distribution/ place:* M = 4.03, SD = .794). It was also found that the quality of milk (product) was comparable to those of the studied cooperatives competitors (M = 3.62, SD = .560). Further, it was reported that the training provided to members of the cooperatives was relevant (M = 4.47, SD = 0.701), and that the trainings were conducted regularly. Overall, management style and training were rated as being satisfactory (4.00 < M < 5.00) while marketing and permanence were found to be moderate (3.50 < M < 4.00). A summary of management, marketing, training and performance status were presented on Table 4.4 where the mean and standard deviation of the data on the study variables are presented.

# Table 4.4

Summary Descriptive Results

**Descriptive Statistics** 

Variable	Mean	Std. Deviation	Ν
Management style	4.01	.695	58
Marketing of products	3.92	.560	58
Training by dairy cooperative societies	4.13	.701	58
Performance of Dairy Cooperative Societies	3.52	.639	58

Source: Research Data (2020)

The aggregate means and standard deviations of the responses on study variables are Management style (M = 4.01, SD = 0.695), Marketing of products (M = 3.92, SD = 0.560), Training by dairy cooperative societies (M = 4.13, SD = 0.701), and performance (3.52, SD = .639). These results imply that the training, management style, and to a less extent the marketing of products are satisfactory. However, the performance was reported to be unsatisfactory because the composite average response from all respondents was less than 4 (Agree: M = 4.00). The

result on performance shows that there was no agreement on how satisfactory the performance was; the respondents were lying between being neutral (undecided) and agreeing to the statements on performance. Apart from turnover having increased satisfactorily over the previous two years (M = 4.03, SD = .648), all the other indicators of performance had a mean less than 4.00 on a scale of 1 to 5 (1 = strongly disagree, 2 = disagree, 3= neutral (50/50), 4 = Agree and 5 = strongly agree). Similarly, promotion and distribution (accessibility) of milk were found to be satisfactory (Promotion: M = 4.12, SD = 0.701; Distribution: M = 4.03, SD = 0.695).

# **4.5 Relationship Bbetween Organizational Factors and Performance**

The collected data was also analysed to obtain the strength of relationship between organisational factors and performance of the dairy cooperatives. The results of the correlation analysis which were obtained by use of Pearson product moment correlation are presented in table 4.5

	C	Correlations		
			Training by	
			dairy	Performance of
	Management style	Marketing of products	cooperative societies	Dairy Cooperative Societies
Management style	1			
Marketing of products	58 .392 <sup>**</sup> .002	1		
Training by dairy cooperative societies	58 .422** .001 58	58 .282* .032 58	1 58	
Performance of Dairy		.230	.685**	
Cooperative Societies	.941	.083	.000	
	58	58	58	58

Table 4.5Relationship Between Organizational Factors and Performance

Source: Research Data (2020)

The results in Table 4.5, both marketing (r = 0.230, p = 0.083 > 0.05) and training (r = 0.230, p = 0.083 > 0.05) had appositive relationship with performance. However, it was found that management style did not have a significant relationship with performance (r = -0.010, p = 0.941 > 0.05). The relationship between marketing and performance was significant at 10% level of significance (p < 0.1) while that of training was strong and significant at 5% level of significance (p < 0.05). Training had the strongest significant relationship with performance followed by marketing and lastly, management style, which did not have a significant relationship with performance of dairy cooperative societies A and B. All the three variables, marketing, management approach and straining had positive relationship with performance.

## 4.6 Influence of Organizational Factors on Performance

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In order to ascertain the relative influence for organisational factors (marketing, management style, and training) on performance of dairy cooperative A and B, multiple linear regression analysis was done with performance as the dependent variable while the organisational factors were the predictor variables. The results are as shown in Table 4.6 (Model summary) Table 4.7 (Model fit) and Table 4.8 (coefficients).

Table 4.6Influence ofModel Summ	0,	Ianagemen	t and Training	on Pe	rformai	nce	
	•	R	Adjusted R	Std.	Error	of	the
Model	R	Square	Square	Estin	nate		

0.600

.775a

1

a Predictors: (Constant), Training by dairy cooperative societies, Marketing of products, Management competence *Source: Research Data (2020)* 

The combination of marketing, management, and training of members explained 60% ( $R^2 = 0.600$ ) of the variation in performance of A and B dairy cooperatives. Further, the model fit

0.578

0.41506

results are presented in Table 4.7. The results suggest that 40% of variation in performance can be explained by other factors that were not examined in this study

## Table 4.7.

# Model Fit

	ANOVA <sup>a</sup>							
Sum of								
Mod	del	Squares	Df	Mean Square	F	Sig.		
1	Regression	13.983	3	4.661	27.056	$.000^{b}$		
	Residual	9.303	54	.172				
	Total	23.286	57					

a. Dependent Variable: Performance of Dairy Cooperative Societies
b. Predictors: (Constant), Training by dairy cooperative societies, Marketing of products, Management competence
Source: Research Data (2020)

The linear regression model had a good fit (F  $_{3,57} = 27.056$ , p < 0.001 < 0.05) at 5% significance level (p < 0.05) indicating that the regression model that fit the data that was analysed. Further, the results of the relative influence of marketing, management approach and training of dairy cooperative members on performance shown in Table 4.8. The result suggest that then three organisational variables significantly explained the variation in the performance of the dairy cooperative societies that were studied. Since the model is significant, the results imply that the variation in performance of the dairy cooperatives was in deed as a results of the organisational variables that were studied - Management style, Marketing, and Training.

#### Table 4.8

		Coef	ficients <sup>a</sup>			
		Unstand	ardized	Standardized		
		Coeffi	cients	Coefficients		
Mod	lel	В	Std. Error	Beta	t	Sig.
1	(Constant)	1.262	.462		2.732	.008
	Management style	385	.092	418	-4.187	.000
	Marketing of products	.187	.108	.164	1.732	.089
	Training by dairy cooperative societies	.743	.087	.816	8.512	.000

#### Factors Affecting Performance

a. Dependent Variable: Performance of Dairy Cooperative Societies Source: Research Data (2020)

As seen from the results (Table 4.8) marketing (t = 1.732, p = 0.089 > 0.05) and training by cooperative societies (t = 8.512, p < 0.001 < 0.05) positively influenced performance of dairy cooperative societies. However, management style (t = -4.187, p <0.001 < 0.05) had a negative but significant influence on performance cooperative diaries B and A at 5% level of significance. The strongest influence on performance was by the training of members followed by management style though the management styles effect was negative. However, the marketing approaches did not have significant influence on performance on performance at p < 0.05 but at p < 0.1.

#### 4.8.1 Marketing and Performance

The findings are consistent with the fact that marketing is obtaining needs and wants through creating and exchanging value with others via social and managerial processes (Kotler & Armstrong, 2010). According to Fafchamps (2004) regional food security is achieved through a well-integrated market system where effective allocation of product resources is gained. This

situation has the potential for effective globalization of the dairy industry through the support of domestic and trade policy reforms that would lead to high prices for dairy preferences.

According to the FAO (2010), increased prices and a further increased value of dairy production have made the milk industry to be among the leading gross value sectors in agriculture. Despite this, increased market prices have also shown ability to have negative effects on the milk sector. In situations of increased market prices, consumption declines and dairy ingredients may be replaced by cheaper substitutes in food manufacturing. The study revealed that the farmers earned an average monthly income of between Kshs 5,000-10,000 the Food and Agriculture Organization (2010) noted that dairy farming offered a regular and reliable source of wealth for farmers. The research also indicated that dairy farming was profitable. Leksmono (2006) argues that dairy farming is profitable compared to crop farming. This is because crop production relies on rainfall; affected by natural calamities, affecting agricultural income. The study also found out the ministry of cooperative development, processors and financial Institutions were important players in the dairy industry. According to Wanyama et al. (2008) Co-operatives have greatly aided in the mobilization and distribution of financial capital by enabling job safety and investment opportunities for their membership and other locals. The findings of the present study suggests that the marketing at the two dairy cooperatives in Kiambu Count – A and B dairy cooperatives - was effective and that it significantly influenced performance of these two cooperatives.

#### **4.8.2 Management Style and Performance**

Mwendwa (2016) found that performance of Matatu SACCO in Kitui County was influenced by management skills, manager's levels of education and practices. Howewer the finding in this study is that management has a negative influence on performance hence the need to investigate why this is the case since management has variously been found to positively impact performance.

Further, Owango and Staal, (1998) affirms that the timely effect of marketing liberalization in Kenya's milk sector has enabled market competition within the existing dairy firms. This is due to new market entrants. According to Kenya Dairy Board (2009), the informal market controls 70% of the total milk marketed in Kenya.

This finding is also consisted with that by Nyambura (2014) in a study to establish factors influencing performance of Coffee Cooperatives in Kangema Constituency, Murang'a County, Kenya, which found that managers' problem-solving skills are important at any work place and they have to learn how to confront and handle business demands by effectively implementing strategic plans. Further, Stainsby (2007) notes that strategies should be developed to help managers able to cope with difficult situations to see the way forward. This is concurs with the findings of this study.

#### 4.8.3 Training and Performance

The study findings are in tandem with Barasa (2014) that sought find out factors that influenced performance of SACCOs in Kenya: a case of cooperative societies in Bungoma County and found that reward for innovation and creativity motivated working force, proper treatment and an

enabling environment also inspire staff. Findings from the staff also indicated that members received frequent training. Cooperative societies have capacity to apply varied human resource management traditions to improve capability and as a result improve performance. The hiring of workforce can be done by rigorous selection plans aimed at identifying top talent or input. Equally, studies reveal a positive impact on an institution performance as a result of the selection process. Largely, memberships in cooperative societies elect their director to oversee operation of the society from within themselves. This has the ability of getting poor managers leading to reduced performance of cooperative in the County. In addition, institutions can enhance the quality of existing workforce by offering broad educational training and growth opportunities. Publications indicate that increased effort in educational training enables positive institutional results. Efficiency of the skilled labour force is however affected negatively when poorly motivated. According to Gerhart and Milkovich (1992), educational training indicated results on

the influence of incentive compensation and performance management systems on firm performance. The finding in this study suggests that training ought to be intensified to improve the performance of the dairy cooperatives.

Further, publication advance that increased effort on training secures positive institutional results. Competitive advantage works when a company ensures value addition by its staff towards the production processes and that its human labour are not duplicated. This is demonstrated dairy cooperative society A where liberalization enabled the appointing authority space and capacity to employ professional staff to oversee daily management activities (Wanyama, 2008).

65

#### **CHAPTER FIVE**

#### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### **5.1 Introduction**

This chapter presents the summary of findings conclusion and recommendations of this study. In addition, suggestions for further study and applied implications of the study are suggested. The summary conclusion and recommendations are presented in relation to the objectives of the study.

#### **5.2 Summary of the Findings**

The objective of the study was to assess the relationship between management style, marketing approach and training on performance of two dairy cooperative societies in Kiambu County of Kenya. Specifically, the study sought to establish the influence of management style, marketing and training on performance of selected cooperative societies in Kiambu County. Before the relationship between management style, marketing and training on performance was examined, the disposition of the dairy cooperatives with regard to management style, milk marketing and training was described using descriptive statistics. This was followed by correlation analysis to examine the direction (positive or negative) and strength of the relationship between the three organisational factors and performance. Lastly, the relative influence of management style, marketing and training on performance was analysed using multiple linear regression analysis.

#### 5.2.1 Management and Performance in Co-operative Societies Kiambu County

The first objective was concerned with the link between management style and performance of selected dairy cooperative societies in Kiambu County. It was found that the management style was satisfactory (M = 4.01, SD = 0.695), and performance (3.52, SD = .639. However, it was found to have a positive but insignificant (p > 0.05) relationship with performance (r = -0.010, p = 0.941 > 0.05) at 5% level of significance. Further, management style had a strong negative influence on performance (t = -4.1874, p <0.001). This result suggests that the management at the cooperatives had a negative significant influence on performance of the dairy cooperative societies in Kiambu County, Kenya.

According to Tibbs and Reuben (2015) management competence includes the skill of identifying what should be done and how it is going to be done in the most efficient and effective way possible. This competence is required by managers for the achievement of the organizations objectives through effective and efficient performance. Since there is an ever-changing operating environment, the role of managers today has become more and more complex. To ensure satisfactory organizational performance managers have to deal with the complexity and speed of change that is occurring in the organization's environment both internal and from the external environment. In Kenya, collapse of dairy cooperatives may is a consequence of divestment of cooperative administration that leads to unchecked and unregulated member autonomy over all aspects of cooperative activities.

Different stakeholders in cooperatives societies are part of decision-making but the membership is the top most organ. Membership is governed by the cooperative's principles, which guide the decision-making processes. It is observed that management structures of daily cooperative societies get complicated due to democratic principles of decision making which leads to conflict between the owners and managers. A balance between the two should be created for good progress which can happen though monitoring of the cooperatives financial function that assist managers in performance of their roles and decision making processes. Nyambura (2014) found out that good management skills enhance the performance of cooperatives societies. Aizenman et al. (2005) acknowledges management skills help cooperatives staff to handle all risks that sustain to performance.

Governance is intended to ensure that the organizations structures, functions, processes, and traditions run in such a way that they achieve their objectives in an productive and transparent manner. Through efficient management, strategic planning and equitable resource allocation good governance is achieved and adds value to performance in the organization. A study by Munene and Muturi (2013) sort to find out obstacles encountered by deposit-taking SACCOs regulatory compliance in the country. Descriptive survey design was used and on its findings governance challenges constituted; managerial capacity at board and staff level that influence performance.

#### 5.2.2. Milk Marketing and Performance in Co-operative Societies in Kiambu County

The second objective dealt with effect of milk marketing on the performance of selected dairy cooperative societies in Kiambu County. The practice of marketing of milks products (M = 3.92, SD = 0.560) was moderately satisfactory. Further, the relationship between marketing and performance was weak (r = 0.230, p = 0.083 > 0.05) and not significant at 5% significance level but only at 10% significance level (p < 0.1). Further, the influence of milk marketing was insignificant (t = 1.732, p = 0.089) at p < 0.05 but only significant at p < 0.1.

# 5.2.3. Influence of Training of Staff on Performance Co-operative Societies in Kiambu County

Similarly, influence of training of staff on performance of selected dairy cooperative societies in Kiambu County was examined. It was found that the training by dairy cooperative societies (M = 4.13, SD = 0.701) was satisfactory and positively and significantly related with performance. All the respondents agreed that training was organized for members by the cooperative societies and training was relevant and effective. In addition, training had positive influence on performance of the dairy cooperatives in Kiambu County (Training: t = 8.512, p < 0.001). Compared to management style, training had a very significant relationship with performance of the studied dairy cooperative societies in Kiambu County.

#### **5.3 Conclusion**

Relying on the findings of the analysis of the relationship between management style, training of staff and marketing, three conclusions of the relationship between three organisational predictors of performance, namely management approaches, marketing and training are as follows:

#### 5.3.1 Influence of Management on Performance

Management style at the A and B dairy cooperatives was effective since the respondents agreed to statements on the effectiveness of the management of the cooperatives however, the management approaches negatively and significantly influenced performance of the dairy cooperatives. This finding suggests that the management style should be improved so that it does not negatively affect performance. Through efficient management, strategic planning and equitable resource allocation good governance achieved adds value to performance in the organization. A study by Munene and Muturi (2013) sort to find out obstacles encountered by deposit-taking SACCOs regulatory compliance in the country. Descriptive survey design was used and on its findings governance challenges constituted; managerial capacity at board and staff level that influence performance.

#### **5.3.2 Effect of Milk Marketing and Performance**

Findings of the present research reveal that the marketing at the two dairy cooperatives in Kiambu Count, namely A and B dairy cooperatives – was effective and that it significantly influenced performance of these two cooperatives. The marketing approaches found to be effective and that they positively influence performance of dairy cooperatives in Kiambu County.

The findings imply that the cooperatives in Kiambu should enhance their practices of marketing as identified in this study; these include promoting the milk products and ensuring that it is available accessible through distribution channels. The research established that important milk marketing channels as sales directly to households, informal private traders and marketing by cooperative movements. It further revealed that increased number of adults in a family setting encourages marketing by local private trader channels or cooperative societies compared to individual clients. Families with employed assistance within their operations showed preference towards private traders and cooperatives than the individual customer link. Family settings with high acreage on land ownership showed reduced preference to marketing by private traders link or cooperative societies. The analysis indicated that milk farmers reduced preference to marketing channels offering cash payments or on credit terms than those offering monthly payments with contract agreements.

#### 5.3.3 Training of Staff Members and Performance

The research examined the extent to which dairy cooperatives train their members and its impact on performance cooperative societies. It was further found that the training was effective on a scale of 1 to 5 with 1= strongly disagree and 5=strongly agree, the responses mean was 4 (Agree: M=4.00). Since the relationship between training and performance was strong and positive (r = 0.685, p <0.001), this finding implies that the more the members are trained, the better will be the performance of the dairy cooperatives in Kiambu County

Based on the findings and the conclusions of the findings, this study is beneficial to the management, employees and customers of dairy cooperative societies in Kiambu County. Arising from these findings, management, cooperative members, employees and customers to improve the style of management, identify the most effective training of staff, and implement the most effective milk marketing strategies that would ensure satisfactory performance of respective dairy cooperatives in Kiambu Count and in other parts of Kenya. Other societies can also use the findings to tackle the issues identified in this study in order to enhance their performance.

Training details numerous endeavors from which institutions establish human resource that meets the required standards. The analysis evaluated levels to which cooperatives in Nyeri County train their senior staff on business roles and its impact on results. Institutions have the ability to attract highly skilled staff and conduct trainings on staff in order to ensure they develop special capabilities required. Practices from the Strategic Human Resource Management (HRM) enable an institution to ensure that its human resources is difficult to replicate. According to Goldstein and Ford (2002) training involves meeting conditions suitable for the firm's day to day activities. Firms select employee with high ability and rare talent. He further notes that the firm will equip its employees through training to acquire unique skills needed. Cooperative societies adopt different HRM practices for example selection procedures aimed at screening the best employees. After selection, the existing employees undergo training and development activities, which help in progression of the organization. Investing in constant training of employees produces beneficial outcome to the organization.

The review of literature in this study brought out variables that determined performance of the dairy industry in Kenya. Though many variables discussed in literature around performance by different authors, this thesis demonstrates the relationship between three organisational variables and performance of the dairy industry in Kenya; these are management style, milk marketing and training of staff members. This brings clarity on how t management style, milk marketing and training of staff members affect performance. These findings can guide specific actions in these three areas since these organisational variables significantly affect performance of the dairy cooperative societies

#### **5.4 Recommendations**

From the study findings and conclusions, this study has some recommendations: dairy industry should invest in milk market infrastructure, which will subsequently improve breeding programs. Further, dairy cooperatives should focus on improving promotion, distribution and quality of milk as a key strategy to realize the needed performance. The management style negatively affect performance, so it should be improved. Specifically, cooperatives should promote professional management.

#### **5.5 Suggestion for further Sstudies**

From this study, the following areas need further research: an examination of the relationship between other organizational factors such culture, technology, and performance of the dairy cooperatives in other counties to allow for generalization of findings. Further, study on similar factors requires examination in other counties and on the most effective marketing strategies because management, marketing and training explained about 60% of variation in performance of dairy cooperatives. There is therefore need to determine the other factors that would account for the remaining variation. Further, since this was an exploratory study, it is suggested that a study on the same variables across more counties and with a larger sample be conducted to increase the generalizability of the findings to larger populations. In addition, the influence of other organisational variables on performance of dairy cooperatives in another area of interest to be studied.

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#### **APPENDICES**

#### **APPENDIX I: LETTER OF INTRODUCTION**

Freda Karimi Mwebia P.O. Box 120- 60200, Nairobi

#### Dear Sir/ Madam -

#### **RE: RESEARCH PROJECT**

I am a postgraduate student at Kenya Methodist University pursing a Master's degree in Business Administration. As part of my requirement of the course I am carrying out a research on

"Determinants of Performance in the Dairy Cooperative Societies in Kenya: A Case of Selected Cooperative Societies in Kiambu County"

I have considered your institution to be a participant in this study. I am therefore requesting you to provide me with the information required through the attached questionnaire.

I wish to assure you that the information will be treated with confidentially and will be used for academic purpose only.

Thanking you in advance.

Yours faithfully,

#### FREDA KARIMI MWEBIA

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### **APPENDIX II: QUESTIONNAIRE**

I am a postgraduate student at Kenya Methodist University. I would be grateful if you would answer questions herein. The information will be treated confidentially and will only be used for the purpose of the research. Please respond to questions by ticking ( $\sqrt{}$ ) against the appropriate information and writing appropriate answer in blank spaces. Do not write your name or that of the company anywhere on the questionnaire interview.

#### **SECTION A: DEMOGRAPHIC DATA (Tick appropriately)**

1) Please indicate your gender.

-)		
a)	Male	[]
b)	Female	[]
2) Which o	dairy cooperative society do you	belong to?
a)	А	[]
b)	А	[]
3) What is	your age?	
a)	18-26	[]
b)	27-38	[]
c)	39-47	[]
d)	48 and above	[]
4) What is	your highest academic qualification	ation?
a)	Primary	[]
b)	Secondary	[]
c)	Technical and Vocational	[]
d)	University	[]
e)	Others specify	[]

# SECTION B: FACTORS AFFECTING PERFORMANCE OF SELECTED CO-OPERATIVE SOCIETIES.

### Part A: Management Styles

5) To what extent do you agree with the following statements on management styles incooperative influences performance of daily cooperative society? Please tick below if it is true to you. Use the provided scale, where

# 1 = Strongly disagree (SD) 2 = Disagree (A) 3 = Undecided (U) 4 = Agree (A) and 5 = strongly agree (SA)

	Statement	SD	D	U	А	SA
		(1)	(2)	(3)	(4)	(5)
1.	Organization structure promotes quick					
	decision making					
2.	The management has set policies and					
	plans appropriately to ensure dairy co-					
	operative society performance					
3.	Dairies are well organized to permit efficient and effective flow of communication.					

## **PART B: Marketing**

The following stamen are about the marketing practices. Please indicate your extent of agreement with the statements, where:

1 = Strongly disagree (SD) 2 = Disagree (A) 3 = Undecided (U) 4 = Agree (A) and 5 = strongly agree (SA)

Statement .			SD	D	U	А	SA
			(1)	(2)	(3)	(4)	(5)
1. There add cooperative ( <i>Promotion</i>	2	of the products					

2.	Milk is accessible to customers
	(Distribution/ place)
3.	Our milk is of higher quality compared to that of our competitors ( <i>Product</i> )

## **PART C: Training of Staff**

Please indicate on the provided scale the extent of your agreement with the following statements about training in your dairy cooperative, where

1 = Strongly disagree (SD) 2 = Disagree (A) 3 = Undecided (U) 4 = Agree (A) and 5 = strongly agree (SA)

	Statement	SD	D	U	А	SA
		(1)	(2)	(3)	(4)	(5)
1.	Relevant trainings are provided to					
	management by cooperative society					
2.	Relevant trainings are provided to					
	members by the cooperative society					
3.	Trainings are conducted regularly to improve staff competence					

## PART D: Performance

The following statements are aimed at understanding the performance in your cooperative. Please indicate the extent of your agreement with one of the statements provided on a scale of 1 to 5; where 1 = least extent of agreement (strongly disagree) and 5 = largest extent of agreement

	Statement	SD	D	U	А	SA
		(1)	(2)	(3)	(4)	(5)
1.	Turnover has been growing over the last					
	two years					
2.	There prompt pay out to members in this					
	cooperative					

4. The members share capital has increased	3.	The number of members has increased in the cooperative.			
		the cooperative.			
over the last two years	4.	The members share capital has increased over the last two years			

## The end.

# Thank you for your participation in this study.

#### **APPENDIX III: INTRODUCTION LETTER**



## KENYA METHODIST UNIVERSITY Fax: 254-64-30162 Email: info@kemu.ac.ke

P. O. Box 267 Meru - 60200, Kenya Tel: 254-064-30301/31229/30367/31171

Our ref: NAC/MBA/2/2019/3

MARCH 13th, 2019

Commission Secretary. National Commission for Science, Technology and Innovations, P.O. Box 30623-00100, NAIROBI.

Dear Sir/ Madam,

#### RE: FREDA KARIMI MWEBIA (BUS-3-2558-1/2013)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, undertaking Masters in Business Administration. She is conducting a research titled AN ANALYSIS OF DETERMINANTS OF PERFORMANCE OF THE DAIRY INDUSTRY IN KENYA. A CASE STUDY OF SELECTED COOPERATIVE SOCIETIES IN KIAMBU COUNTY.

We confirm that her thesis proposal has been defended and approved by the university.

In this regard, we are requesting your office to issue a permit to enable her collect data for her Masters dissertation.

Any assistance accorded to her will be appreciated.

Yours faithfully, Freent

DR. Evangeline Gichunge, PhD. ASS DIRECTOR POSTGRADUATE STUDIES

3 MAR 2019

THODIST Dean

Encl.

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#### **APPENDIX IV: NACOSTI RESEARCH PERMIT**



#### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349.3310571.2219420 Hax:+254-20-318245.318249 Email: dg@nacoall.go.ke Webs tel: www.hacoall.go.ke When replying please quote

NACOSTL Upper Kabete Off Warphy Way P O Box 30523-00100 NATROBJ-KENYA

Ref. No. NACOSTI/P/19/26463/29563

Due: 25th April, 2019

Freda Karimi Mwebia Kenya Methodist University P.O. Box 267- 60200 MERU.

#### RE: RESEARCH AUTIIORIZATION

Following your application for authority to carry out research on "An analysis of determinants of performance of the dairy industry in Kenya. A case study of selected Cooperative Societies in Kiambu County" I am pleased to inform you that you have been authorized to undertake research in Kiambu County for the period ending 23<sup>rd</sup> April, 2020.

You are advised to report to the County Commissioner and the County Director of Education, Kiambu County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

#### GRADOW GODFREY P. KALERWA MSc., MBA, MKIM FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner Kiambu County.

The County Director of Education Kiambu County.

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