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DETERMINANTS OF PERFORMANCE OF COFFEE CO-OPERATIVE SOCIETIES IN KIAMBU COUNTY, KENYA

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Abstract

The study endevoured to find out the determinants of performance of coffee co-operative societies in Kiambu County, Kenya. Specifically, the study determined the extent to which management roles affect the performance of coffee co-operative societies in Kiambu County, Kenya, investigated how farmer involvement, level of income and determined the intervening effect of middlemen on the performance of coffee co-operative societies in Kiambu County, Kenya. This study was based on the resource dependency theory, institutional theory and the systems theory. This study used descriptive research design and targeted managers in the twenty (20) coffee Co-operative Societies in Kiambu County. Sample size was 54 respondents who were randomly selected. Questionnaires were the data collection tools. Validity and reliability of the questionnaire was tested using content and a Cronbach's Alpha of 0.7 respectively. Data was analyzed using descriptive and inferential statistics using SPSS. Results showed that the relationship between performance of coffee co-operative societies and management roles, level of income and middlemen was not statistically significant. Moreover, the relationship between performance of coffee co-operative societies and farmer involvement was statistically significant. The study concluded that farmer involvement is a significant determinant of performance affecting performance of coffee co-operative societies in Kiambu

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County, Kenya. The management of coffee co-operative societies should therefore consider involving farmers through decision making thereby increasing their socioeconomic benefits by improving their welfare and growth of their income.

Keywords: Determinants, coffee, co-operatives, performance, Kenya

INTRODUCTION

Coffee amalgamates several qualities making it a crop with a vast social and economic significance. Further, for many years, it has been the second most traded product in the global market, after petroleum, rendering it one of the fundamental sources of revenue for almost 50 countries improving the welfare and promoting the income growth of farmers (International Coffee Organization [ICO], 2009). The chief exporters of the product still are in Africa, Asia, other than in the developing and less developed countries of the American continent (Muleta *et al.,* 2011). The revenue produced by this product has traditionally been deemed a source of social and economic stability for over 25 million farming families in tropical and subtropical regions globally (Higuchi *et al.,* 2012)

Managers are a representation of a rare resource of an organization as they can influence performance of organization, shaping the strategic choices of the organization and interacting with other strategic variables to impact on the performance of organization (Memon *et al.,* 2009). They are usually considered as the key members in organizations exerting the utmost effect on the strategy of organization (Liu & Ravichandran, 2007). Further, Umukoro (2009) highlighted that there exists a relationship between strategic decisions and top managers' traits in an organization. Effective leadership is a key component in the successful running of any organization and good public administration (McCarthy *et al.,* 2011). Arguably, it is an essential variable leading to improved capacity of the management and public organizations' performance. It is imperative to note that leadership and the capacity of managers is a chief enabler of change and thus there is need to reinforce the leadership and the capacity of managers by the new human resource management so that better leadership can be delivered (Memon *et al.,* 2009).

Co-operatives in Kenya are classified into agricultural co-operatives (including marketing), financial (SACCOs), service (Housing & Insurance) and consumer co-operatives. The co-operatives cut through all economic sectors inclusive of agriculture, finance, livestock, housing, transport, construction and manufacturing. Kenya's long past of co-operative

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development has been depicted by robust growth thus making a key contributor to the overall economy (Njoroge, 2011).

The Coffee Board of Kenya (CBK) regulates the sector and provides a conducive economic environment for the continued development, competitiveness and sustainability of the coffee sector (Mburu, 2011). It monitors and approves of all coffee exports and imports out of and into Kenya's national borders by approving and recording pertinent contracts and documentation (Republic of Kenya, 2002). CBK also issues licenses to stakeholders in the value chain of coffee, such as exporters, dealers, auctioneers, marketing agents/brokers, millers, co-operative societies, warehouses, as well as monitoring the physical movement of unprocessed or semi processed coffee from farmers to other locations, by issuing Coffee Movement Permits (CBK, 2004).

There has been decline in Kenya's coffee production volume which has been contributed by declining crop yields (Muriithi, 2016). Further, the quality of Kenyan coffee has fallen over the past fifteen years, making it hard for Kenya to claim a premium over commodity prices. Research has indicated that Kenyan coffee farmers greatly reduced fertilizers and pesticides application to the coffee crop due to increasing costs of production and prices of inputs such as fertilizers. Coffee production had declined due to low use of inputs and neglect of coffee farms by the farmers. This was accredited to lack of credit to purchase inputs (fertilizers) and chemicals due to their high prices and low payments to farmers (Mamuu, 2014).

Statement of the Problem

For many years, coffee has been the second most traded product in international market, after petroleum, making it one of the fundamental sources of revenue for almost 50 countries (ICO, 2009) leading to improved welfare and economic growth of coffee farmers. Its production in Kenya has been on a downward trend since its peak in 1987 which has not been the case with other coffee producing countries such as Ethiopia, Uganda, Rwanda and Brazil and Kiambu County has not been an exception whose two main cash crops are coffee and tea (Njoroge, 2011). The fluctuation of coffee prices may affect the coffee production by farmers leading to fall of coffee co-operatives in operation. This happens when the output of coffee does not commensurate the input that is put into the production of coffee itself (Degnet, 2004). Further, there has been deterioration of the coffee co-operatives attributable to irresponsibility of co-operative management that has ended up in complete unfettered member independence over all aspects of co-operative activities. Declining of global coffee prices elucidates the majority of Kenya's smallholder coffee predicament (Barrett *et al.,* 2007).

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Kiambu County has 20 coffee co-operative societies which assist farmers in the production and marketing of their produce. The potential of the co-operatives in meeting the needs of its members has not been completely felt as a result of issues on management of the co-operative, level of income and the presence of middlemen in the supply chain (Muriithi, 2016). Inspite of the government efforts in reviving the industry, coffee farmers within Kiambu County have not felt the benefits of such interventions. Evidently, none of these studies have focused on determinants of performance of coffee co-operative societies in Kiambu County, Kenya which this study endevoured to establish.

Objectives of the Study

General Objective

To establish the determinants of performance of coffee co-operative societies in Kiambu County, Kenya

Specific Objectives

i. To determine the extent to which management roles affect the performance of coffee co-operative societies in Kiambu County, Kenya.
ii. To investigate how farmer involvement affects the performance of coffee co-operative societies in Kiambu County, Kenya.
iii. To establish the effect of level of income on the performance of coffee co-operative societies in Kiambu County, Kenya.
iv. To determine the intervening effect of middlemen on the performance of coffee co-operative societies in Kiambu County, Kenya.

Research Hypotheses

H_1: Management roles do not significantly affect the performance of coffee co-operative societies in Kiambu County, Kenya

H_2: Farmer involvement does not significantly affect the performance of coffee co-operative societies in Kiambu County, Kenya

H_3: Level of income do not have a significant effect on the performance of coffee co-operative societies in Kiambu County, Kenya

H_4: Middlemen do not have a significant intervening effect on the performance of coffee co-operative societies in Kiambu County, Kenya?

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THEORETICAL REVIEW

Resource Dependency Theory

This theory was developed by Jeffrey Pfeffer and Gerald Salancik (1978). The chief hypothesis of resource dependency theory is the dependence of all organizations on resources from their setting. The resources are held by other organizations within the setting. The organizations that hold the resources have the ability to exercise power and dominion over those requiring them and therefore the organizations should be dependent on each other for their survival and trade. This theory contends that the ability for the acquisition and maintenance of resources is the key to survival for the organizations (Pfeffer & Salancik, 1978).

The dependence of an organization on its setting is a function of its necessity for resources like raw materials, labour, capital, equipment and openings for its products and services (Hatch, 2013). Further, the setting has the ability of asserting impact over organizations through features as competitive procedures, appropriate products and services and effective structures and processes of an organization. This indicates that it is difficult for an organization to survive if it cannot warrant the continual supply of resources important to its survival.

When a predictive model of resource dependency was used, significant, steady positive relationships was found between survival of organizations and the current level of an organization's resources, impact with important resource suppliers and the steadiness of organizations' setting (Sheppard, 1995). Management of demands is key in ensuring survival of organizations and specifically, meeting the demands of the groups which the organization is dependent upon for support and their resources (Pfeffer & Salancik, 1978). Retaining of multiple sources of supply, creation of joint ventures, vertical integration with suppliers, horizontal integration with competitors and marketing are other strategies proposed (Hatch, 2013).

Organizations are not self-sufficient but always depend on a network of interdependences with other organizations (Pfeffer, 1987). This theory addressed objective two which investigated how farmer involvement affects the performance of coffee co-operative societies and it explained how co-operative societies' resources (farmers) have the ability to exercise power and dominate over organizations requiring the resources.

Institutional Theory

This theory was developed by DiMaggio and Powell (1983). It emphasizes on modern organizations depending on their settings which highly affects the development of formal organization structures. The theory recognizes that systems and structures of an organization are shaped by the economic and social forces (North, 1990). The basic concept of institutional theory is that organizational structures and processes have a tendency of acquiring meaning and achieving stability in their own right instead of focusing on the foundation of the usefulness and efficacy. Institutional theorists had interest in the examination of the organizational structures and practices that had no economic or technical purpose and therefore they do not enhance organization performance (Oliver, 1997).

The institutional theory should focus more on the processes of how the organizations become institutionalized rather than on the effects of institutionalization. Organizations congregate on comparable activities, behavior and practices appearing comparable to like organizations (DiMaggio & Powell, 1983). The advent of variation toward similarity is explained through isomorphic change theory which identifies coercive, normative and mimetic as the three forces on the organizations. Coercive isomorphism evolves from political impact and legality usually expressed through policies, rules, procedures, regulations and accreditation process (outside the organization requirements); normative isomorphism is linked with professional values and mimetic isomorphism is imitating behaviors resulting from response of an organization to uncertainty. These forces dictate institutionalization and induce conformity of an organization through pressure to appear authentic. Institutional factors have been theorized in literature to be potentially important determinants of performance in an organization.

Institutional theory indicates that performance escalates authenticity as it shows how well an organization is accomplishing its functions in society (Meyer & Rowan, 1991). This theory addressed objective three which investigated how the level of income affects the performance of coffee co-operative societies and it elaborated how co-operative societies are shaped by the economic/ income level of the farmers.

Systems Theory

This theory was developed by Bertalanffy (1962) as a theory of emergent -actions and outcomes at the collective level which emerge from the actions and interactions of the individuals that make up the collective. He further pointed out that a critical framework is provided for by the theory for assessing the organization through synergy and interdependence. There was an observation by Hartman *et al.* (2010) that most organizations consist of processing inputs and outputs with interior and exterior systems and subsystems valuable in the provision of operative synopsis of the organization. Kuhn (1974) stated that systems should be coordinated as failure in one system leads to an automatic failure in others.

This theory observes that an organization is a social system which consists of people who co-operate around an official framework, pulling resources, individuals and finances in the production of products. Good leadership of co-operatives ensures effectual and operative management of their resources for maximum outputs. This theory focused on research objective

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one (which seeks to determine the extent to which management roles influence the performance of the co-operative societies) and it explained the important role played by the management of co-operatives.

EMPIRICAL REVIEW

Management Roles and Performance of Coffee Co-operatives

A study was carried out on co-operative governance and social performance of co-operative societies (Kyazze *et al.*, 2017). The findings revealed a statistically insignificant relationship between ratification of decisions made by management and social performance and policy compliance and social performance. Further, co-operative governance predicted social performance. This study focused on the governance of the co-operative societies through management which is also one of the issues this research looked into.

A study to establish the relationship between board size, board composition and Chief Executive Officer (CEO) status on performance of coffee farmer's co-operative societies in Bungoma County, determine the role of the corporate officials and establish the challenges faced by the coffee farmers' co-operative societies in practicing of good corporate governance was conducted (Musuya, 2010). The key findings of the study revealed a linear relationship between performance and board size; secretary -manager status and board composition. The research looked into the impact of management on the coffee farmer's co-operative societies' performance which relates to what the current study focused on.

A study to examine the relationship between the leadership role and coffee co-operatives performance in East, West and South Ethiopia was conducted (Gutema, 2014). The analysis results showed that the most effectual leaders in business performances are those utilizing leadership behavior, skills and trainings required in the coffee co-operatives. This study relates with the current study in that the role of leadership was studied.

Farmers Involvement and Performance of Coffee Co-operatives

A study assessing the impact of farmers' co-operatives on agricultural development, the socio-economic traits, perception of the members and the constraints to cooperation in Kwali area council, Nigeria was conducted (Yamusa & Adefila, 2014). The findings indicated that p-values for education level (0.013), experience of co-operative (0.021) and size of family (0.018) have some significant difference with agricultural development. The study evaluated the impact of empowerment through training on the members of the coffee co-operatives and the current study also focused on the same to enhance higher productivity thus increase on the amount of coffee deliveries in Kiambu County.

A study on turning farmers into business partners through value co-creation projects with insights from the coffee supply chain was conducted (Candelo *et al.,* 2018). The framework empirically showed that the farmers were in the process of becoming business partners of the coffee supply chain due to numerous empowerment initiatives. Empowerment through training programs of coffee farmers was found important in the study and the current study focused on whether trainings are organized and how they impact the performance of the coffee co-operative society.

Level of Income and Performance of Coffee Co-operatives

The determinants and economic impacts of membership in coffee farmer co-operatives in Ethiopia were conducted by Mojo *et al.* (2017). Findings indicated that membership was positively associated with household income and assets. Further, there is need for a procedure that will ensure that poorer farm households participate and improvement in the benefits of members as probable areas in making co-operatives more attractive and sustainable. The study evaluated economic impacts on the members of the coffee co-operatives as one of the factors influencing performance and the current study also focused on the same in Kiambu County.

Factors influencing performance of coffee co-operatives in Kangema constituency, Murang'a County, Kenya were investigated by Kamau (2014). Findings indicated that most staff suggested an increment in their salaries and employment of more members to avoid overworking the available staff. The study concluded that the government should work on the coffee related incomes to motivate the farmers. The study evaluated the impact of income on the members of the coffee co-operatives as one of the factors influencing performance and the current study also focused on the same in Kiambu County.

The impact of co-operative membership on members' household economies in Chiapas coffee farmers was conducted by Pitts (2018). Results showed that social capital at the individual and village level is correlated with co-operative membership more than other demographic factors. The study evaluated the impact of household economies on the members of the coffee co-operatives as one of the factors influencing performance and the current study focused on the effect of income levels in Kiambu County.

Middlemen and Performance of Coffee Co-operative Societies

The role of co-operative society for marketing agriculture products in Bangladesh was conducted (Siddique, 2015). Findings indicated that most of the farmers were uneducated and therefore unable to sell their products to the final consumers. Consequently, middlemen were playing marketing role and making farmers unable to get fair price for their products. The current

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study focused on the role of the middlemen in farmers getting reduced prices for their produce which was found by the study

A study on whether middlemen are facilitators or barriers to improve smallholders' welfare in rural economies with empirical evidence from Ethiopia was carried out (Gumataw *et al.*, 2016). Revenue from gross profit was found to be 225% higher for farmers without intermediation attributable to having access to improved inputs' quality, improved specifications of contract and higher prices received for their products. The study found that wholesalers preferred working with middlemen to warrant minimum quantity and quality and reduction of the measuring quality cost and the current study focused on the quality manipulations by middlemen in Kiambu County.

A study on middlemen, bargaining and price information was done (Mitchell, 2011). The source of heterogeneity was attitudes towards fairness. The findings of the study were in support of the predictions of the model and showed that actual middlemen vary in their attitudes towards fairness and that in the instances where the farmer has information, higher prices are offered by the middlemen and the benefit of information to the farmer differs with the cost of trading. The study investigated how prices can be increased that producers receive from middlemen while the current study looked at the role of middlemen on the reduced coffee prices.

Conceptual Framework

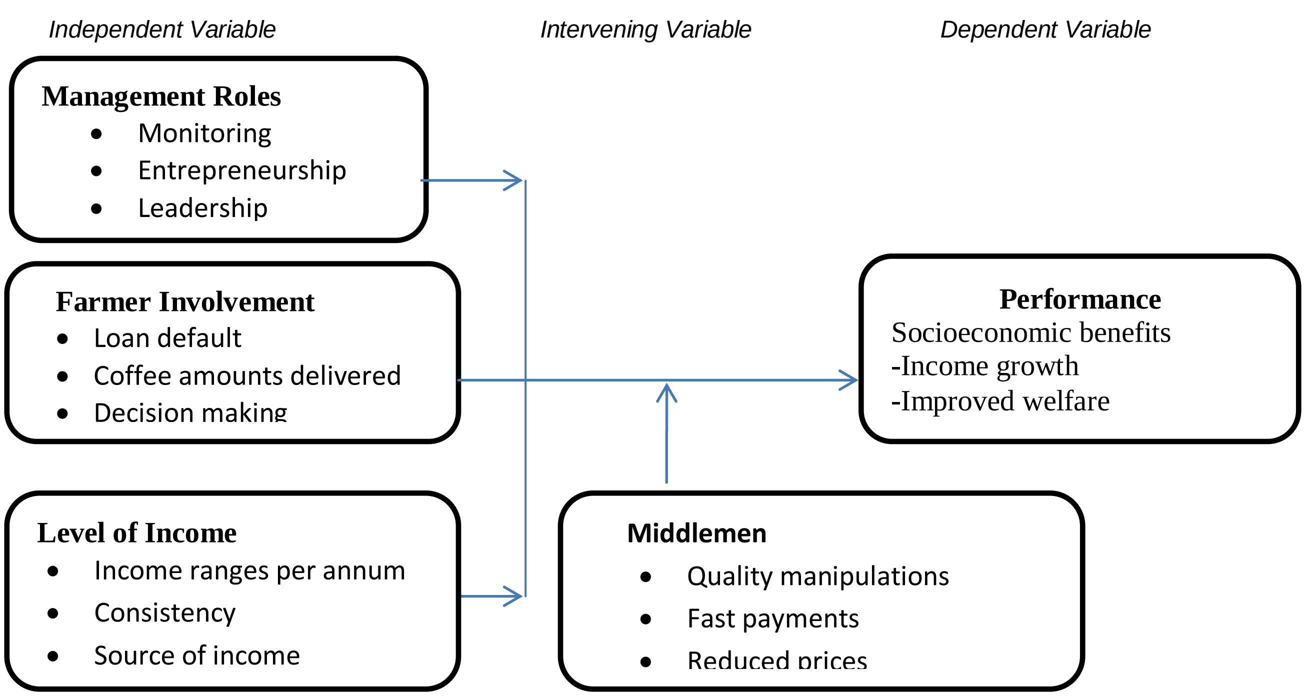

Figure 1: Conceptual Framework

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RESEARCH METHODOLOGY

Research Design

A descriptive research design was used. This is used to obtain information concerning the present position of the occurrences regarding variables in a circumstance (Mutai, 2000). This design was used due to its relevance in ascertaining relationships between the study variables and enabling collection of information for the determination of the parameters of the population.

Target population

Population is an absolute group of entities or incidents that have observable traits (Mugenda & Mugenda, 2008). Target population is a subgroup of the large population (Pyrczak, 2010). The population in this study was the management of the twenty (20) Farmers' Coffee Co-operative Societies in Kiambu County.

Sample Size and Sampling Technique

A sample is a subsection of the population to be studied (Levy & Lemeshow, 2013). The strategy in place to select the respondents in the study is the sampling technique (Kothari, 2008). Mugenda and Mugenda (2008) stated that 10-30% of the population makes a representative sample. In this study, 30 % of the population was taken forming a sample size of fifty four (54) respondents. Respondents were drawn from the managers in the co-operatives who were randomly selected. Respondents from the management included the board chair, secretary, treasurer, secretary manager and committee member while on the middle management the supervisory committee comprising of the chairperson, secretary and the treasurer as well as one factory manager.

Table 1: Sample size

Management Level	**Total Population**	**Percentage of Population**	**Sample size**
Management committee	5*20=100	30	30
Supervisory committee	3*20=60	30	18
Factory manager	1*20=20	30	6
Total	180	30	54

Data Sources and Collection Instrument

Questionnaires were self-designed and were used to collect the data. Questionnaires gives respondents an opportunity to offer structured and well thought out responses (Saunders *et al*.,

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2007). The questions were closed-ended questions since they ensure consistency of responses (Babbie, 2012). The questionnaire is perfect as it will enable fast collection of alike data across a comparatively distributed population. Likert-scales evaluated the views of the respondents in regard to the degree in which the selected determinants influenced the performance of the coffee co-operative societies in Kiambu County.

Pilot test

This was done before carrying out the main study and assisted in showing important facts in the data sets. The questionnaire was pilot tested using five (5) respondents drawn from the management who were randomly selected (Mugenda & Mugenda, 2008). Questions attracting biasness and unclear were modified and clarified.

Validity of Research Instrument

This is a measure of correctness and the extent to which findings gotten from the analysis of the data is a definite depiction of the occurrences being studied (Mugenda & Mugenda, 2008). Content validity was used in this study (Cooper & Schindler, 2006).

Reliability of Research Instrument

This is a gauge of the extent to which the questionnaire gives consistent findings (Mugenda & Mugenda, 2008). Cronbach's Coefficient Alpha was used. Cronbach Alpha shows the degree to which a set of measurement items could be treated as measuring a single latent variable (Sprinthall, 2011; Nachmias & Nachmias, 2004). The alpha coefficient ranges in value from 0 to 1. A high coefficient shows that the items have a high correlation among themselves (Nunnaly, 1978). A Cronbach's Alpha of 0.7 or above was adequate for the assessment of the reliability of the questionnaire (Nachmias & Nachmias, 2004).

Data Collection Procedure

Questionnaires were personally given out to the targeted respondents and picked later as agreed. This gave the respondents enough time to respond offering the necessary feedback pursued.

Data Analysis and Presentation

Data was analyzed using Statistical Package for Social Sciences (SPSS) software version 22. Data analysis entailed the use of descriptive and inferential statistics.

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The general model was as follows:

$Y= \beta_o + \beta_1X_1+ \beta_2X_2+ \beta_3X_3 + \varepsilon o$

Where:

Y = Performance of co-operative societies

β_0 = Constant

β_1 = Coefficients

X_1 = Management Roles

X_2 = Farmer Involvement

X_3 = Level of Income

ε_o = Error term

With the intervening variable, the model was as follows

$Y= \beta o + \beta_1X_1+ \beta_2X_2+ \beta_3X_3 + \beta_4X_4 + \varepsilon_o$

Where :

Y = Performance of co-operative societies

β_0 = Constant

β_1 = Coefficients

X_1 = Management Roles

X_2 = Farmer Involvement

X_3 = Level of Income

X_4 = Middlemen

εo= Error term

RESULTS AND DISCUSSION

Descriptive Statistics

This provides simple summaries concerning the studied variables and their measures. In this study, all the questions required the respondents to indicate their agreement levels on various indicators of management roles, farmer involvement, level of income, middlemen and performance of coffee co-operative societies. The results are presented using frequency, percentage, means and standard variation.

Management Roles

The study determined the extent to which management roles affect the performance of coffee co-operative societies in Kiambu County, Kenya. Management roles were conceptualized to constitute monitoring, entrepreneurship and leadership. Respondents were asked to indicate the

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degree to which they agreed with different statements defining the management roles indicators and the results are shown in Table 2.

Table 2: Descriptive Statistics for Management Roles

Description	Frequency and Percentages						Mean	SD
	SD	D	N	A	SA	n		
The management of the co-operative society have the responsibility of monitoring the activities of the society	2 5%	2 5%	1 2%	11 27%	25 61%	41 100%	4.34	1.08
Advertising and marketing of the products of the society is done by the management	3 7%	11 27%	12 29%	11 27%	4 10%	41 100%	3.05	1.11
Leaders of the co-operative societies are directly appointed by the farmers	0 0%	0 0%	0 0%	19 46%	22 54%	41 100%	4.54	0.50
The management of the co-operative society are mandated with the responsibility of upholding the vision and the mission of the society	2 5%	1 2%	2 5%	28 68%	8 20%	41 100%	3.95	0.89
Composite Mean							**3.97**	**0.895**

SD= Strongly Disagree, D= Disagree, N= Neither disagree nor agree, A=Agree, SA=Strongly Agree, n= sample size, SD= Standard deviation

A look at the mean summaries of the management roles indicators shown in Table 2 indicated that leaders of the co-operative societies are directly appointed by the farmers had the highest mean of 4.54 and SD of 0.50. Management of the co-operative society have the responsibility of monitoring the activities of the society followed with a mean of 4.34 and SD of 1.08. The management of the co-operative society are mandated with the responsibility of upholding the vision and the mission of the society had a mean of 3.95 and SD of 0.89 while advertising and marketing of the products of the society is done by the management had the least mean of 3.05 and SD of 1.11.

Farmer Involvement

The study investigated how farmer involvement affects the performance of coffee co-operative societies in Kiambu County, Kenya. Farmer involvement indicators included loan default, coffee amounts delivered and decision making. Respondents were asked to indicate the degree to which they agreed with different statements defining the farmer involvement indicators and the results are shown in Table 3.

Table 3: Descriptive Statistics for Farmer Involvement

Description	Frequency and Percentages						Mean	SD
	SD	D	N	A	SA	n		
The co-operative society is keen on the members who defaults the loans given	4 10%	9 22%	10 24%	3 7%	15 37%	41 100%	3.39	1.43
The amounts of coffee delivered by the members of the co-operatives is directly related to their involvement	2 5%	12 29%	11 27%	13 32%	3 7%	41 100%	3.07	1.06
Farmers are usually involved in the decisions pertaining to the co-operative society	0 0%	0 0%	4 10%	21 51%	16 39%	41 100%	4.29	0.64
Composite Mean							**3.58**	**1.04**

SD= Strongly Disagree, D= Disagree, N= Neither disagree nor agree, A=Agree, SA=Strongly Agree, n= sample size, SD= Standard deviation

A look at the mean summaries of the farmer involvement indicators shown in Table 3 showed that farmers are usually involved in the decisions pertaining to the co-operative society had the highest mean of 4.29 and SD of 0.64. The co-operative society is keen on the members who defaults the loans given had a mean of 3.39 and SD of 1.43. The amounts of coffee delivered by the members of the co-operatives is directly related to their involvement had a mean of 3.07 and SD of 1.06.

Level of Income

The study established the effect of level of income on the performance of coffee co-operative societies in Kiambu County, Kenya. Level of income was conceptualized to constitute income

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ranges per annum, consistency and source of income. Respondents were asked to indicate the degree to which they agreed with different statements defining the level of income indicators and the results are shown in Table 4.

Table 4: Descriptive Statistics for Level of Income

Description	Frequency and Percentages						Mean	SD
	SD	D	N	A	SA	n		
There has been increment in the income ranges per annum for the members of the co-operatives	8 20%	14 34%	5 12%	13 32%	1 2%	41 100%	2.63	1.20
There is consistency on the level of income by the members of the coffee co-operatives	12 30%	21 51%	5 12%	1 2%	2 5%	41 100%	2.02	0.99
The coffee co-operatives encourages the members on diversifying their sources of income	6 14%	11 27%	6 14%	7 18%	11 27%	41 100%	3.14	1.46
Composite Mean							**2.60**	**1.22**

SD= Strongly Disagree, D= Disagree, N= Neither disagree nor agree, A=Agree, SA=Strongly Agree, n= sample size, SD= Standard deviation

A look at the mean summaries of the level of income indicators shown in Table 4 indicated that the coffee co-operatives encourages the members on diversifying their sources of income had the highest mean of 3.14 and SD of 1.46. There has been increment in the income ranges per annum for the members of the co-operatives had a mean of 2.63 and SD of 1.20 while there is consistency on the level of income by the members of the coffee co-operatives had the lowest mean of 2.02 and 0.99.

Middlemen

The study determined the intervening effect of middlemen on the performance of coffee co-operative societies in Kiambu County, Kenya. Middlemen indicators included quality manipulations, fast payments and reduced prices. Respondents were asked to indicate the degree to which they agreed with different statements defining the middlemen indicators and the results are shown in Table 5.

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Table 5: Descriptive Statistics for Middlemen

Description	Frequency and Percentages						Mean	SD
	SD	D	N	A	SA	N		
Middlemen have been manipulating the quality of the coffee produce before marketing	6 14%	13 33%	10 24%	4 9%	8 20%	41 100%	2.88	1.35
Farmers prefer selling their coffee produce to middlemen due to fast payments compared to co-operatives	14 34%	9 23%	2 5%	6 14%	10 24%	41 100%	2.73	1.64
Middlemen offer lower prices on the coffee produce compared to co-operatives	4 9%	12 30%	8 20%	6 14%	11 27%	41 100%	3.20	1.38
Composite Mean							**2.94**	**1.46**

SD= Strongly Disagree, D= Disagree, N= Neither disagree nor agree, A=Agree, SA=Strongly Agree, n= sample size, SD= Standard deviation

A look at the mean summaries of the middlemen indicators shown in Table 5 showed that middlemen offer lower prices on the coffee produce compared to co-operatives had the highest mean of 3.20 and SD of 1.38. This was followed by middlemen have been manipulating the quality of the coffee produce before marketing which had a mean of 2.88 and SD of 1.35. Farmers prefer selling their coffee produce to middlemen due to fast payments compared to co-operatives had a mean of 2.73 and SD of 1.64.

Performance of Coffee Co-operative Societies

The study examined performance issues as measured by socioeconomic benefits indicated by income growth and improved welfare on the members of coffee co-operative societies in Kiambu County, Kenya and the results are shown in Table 6.

Table 6: Descriptive Statistics for Performance

Description	Frequency and Percentages						Mean	SD
	SD	D	N	A	SA	n		
Income growth	4 9%	8 20%	7 17%	17 42%	5 12%	41 100%	3.27	1.20
Improved welfare	4 9%	8 20%	8 20%	10 24%	11 27%	41 100%	3.39	1.34
Composite Mean							**3.33**	**1.27**

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A look at the mean frequencies showed that improved welfare had a mean of 3.39 and SD of 1.34 while income growth had a mean of 3.27 and SD of 1.20.

Inferential Statistics

The researcher did a linear regression analysis where SPSS was the software that was used to code, enter and compute the measurements of the linear regressions. Coefficient of determination explains the extent to which changes in dependent variable can be explained by the change in the independent variables or the percentage of the variation in the dependent variable (performance of coffee co-operative societies) that is explained by all the three independent variables (management roles, farmer involvement and level of income)

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.793(a)	.628	.598	.78789

a. Predictors: (Constant), Management roles, Farmer involvement, Level of income

Table 7 showed that the correlation coefficient (r) of 0.793 indicates a very positive influence of management roles, farmer involvement and level of income on performance of coffee co-operative societies. The coefficient of determination (adjusted R-Square) statistics of 0.598 implied management roles, farmer involvement and level of income explains 59.8% of performance of coffee co-operative societies while 40.2% of performance is explained by other factors other than management roles, farmer involvement and level of income. The adjusted R-square is used instead of the R-squared as it takes care of the adjustments in the degrees of freedom.

To test for the level of significance of the regression model, ANOVA was used and the results in Table 8. The ANOVA results gave a significance of 0.00 showing that the study's regression model was significant tested at 95% level of significance.

Table 8: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.836	3	12.945	20.854	.000(a)
	Residual	22.968	37	.621		
	Total	61.805	40			

a. Predictors: (Constant), Management roles, Farmer involvement, Level of income

b. Dependent Variable: Performance of coffee co-operative societies

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The linear equation used in this study was

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

Where:

Y = Performance of co-operative societies

β_0 = Constant

$\beta_1 - \beta_3$ = Coefficients

$X_1 - X_3$ = Independent Variables

ε_o = Error term

Table 9: Table of Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-1.454	0.786		-1.850	0.072
Management roles	0.262	0.262	0.135	1.000	0.324
Farmer involvement	1.107	0.213	0.736	5.187	0.000
Level of income	-0.087	0.163	-0.067	-0.532	0.598

a. Dependent Variable: Performance of coffee co-operative societies

As per the SPSS results generated, the equation translated to;

Performance of coffee co-operative societies = -1.454+ 0.262 (0.262) + 1.107 (0.213) -0.087 (0.163)

Where; Performance of coffee co-operative societies = Constant + Management roles + Farmer involvement + Level of income

The results in Table 9 implied that the relationship between performance of coffee co-operative societies and management roles was not statistically significant at the 95% confidence level (β=0.262, p=0.324); The relationship between performance of coffee co-operative societies and farmer involvement was statistically significant at the 95% confidence level (β= 0.213, p=0.000) while level of income and performance of coffee co-operative societies' relationship was not significant at 95% level of confidence (β=0.163, p=0.598).

With the intervening variable, the model was as follows

$Y = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_o$

Where :

Y = Performance of co-operative societies

β_0 = Constant

β_1 - β_3 = Coefficients

X_1 - X_4 = Variables

εo= Error term

Table 10: Table of Coefficients with Intervening Variable

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-0.291	1.210		-0.240	0.812
Management roles	0.213	0.263	0.110	0.812	0.422
Farmer involvement	0.932	0.254	0.619	3.674	0.001
Level of income	-0.041	0.166	-0.032	-0.250	0.804
Middlemen	-0.156	0.124	-0.171	-1.257	0.217

a. Dependent Variable: Performance of coffee co-operative societies

As per the SPSS results generated, the equation translated to:

Performance of coffee co-operative societies = -0.291+ 0.213 (0.263) + 0.932 (0.254) -0.041 (0.166) - 0.156 (0.124)

Where; Performance of coffee co-operative societies = Constant + Management roles + Farmer involvement + Level of income + Middlemen

The results in Table 10 implied that the relationship between performance of coffee co-operative societies and management roles was not statistically significant at the 95% confidence level (β=0.263, p=0.422) while the relationship between performance of coffee co-operative societies and farmer involvement was statistically significant at the 95% confidence level (β= 0.254, p=0.001). Level of income and performance of coffee co-operative societies relationship was not significant at 95% level of confidence (β=0.163, p=0.598). Similarly, the relationship between performance of coffee co-operative societies and middlemen was not statistically significant at the 95% confidence level (β= 0.124, p=0.217).

Summary of Findings

The first objective determined the extent to which management roles affect the performance of coffee co-operative societies in Kiambu County, Kenya. Findings indicated that leaders of the co-operative societies are directly appointed by the farmers had the highest mean which was followed by the management of the co-operative society have the responsibility of monitoring

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the activities of the society. Results further showed that the relationship between performance of coffee co-operative societies and management roles was not statistically significant.

The second objective investigated how farmer involvement affects the performance of coffee co-operative societies in Kiambu County, Kenya. Findings indicated that farmers are usually involved in the decisions pertaining to the co-operative society had the highest mean which was followed by the co-operative society is keen on the members who defaults the loans given. The amounts of coffee delivered by the members of the co-operatives is directly related to their involvement had the lowest mean. Moreover, the relationship between performance of coffee co-operative societies and farmer involvement was statistically significant.

The third objective established the effect of level of income on the performance of coffee co-operative societies in Kiambu County, Kenya. Findings indicated that the coffee co-operatives encourages the members on diversifying their sources of income had the highest mean followed by having increment in the income ranges per annum for the members of the co-operatives. There is consistency on the level of income by the members of the coffee co-operatives had the lowest mean. Additionally, the relationship between the level of income and performance of coffee co-operative societies was not significant.

The fourth objective determined the intervening effect of middlemen on the performance of coffee co-operative societies in Kiambu County, Kenya. Findings showed that middlemen offer lower prices on the coffee produce compared to co-operatives had the highest mean. This was followed by middlemen have been manipulating the quality of the coffee produce before marketing while farmers prefer selling their coffee produce to middlemen due to fast payments compared to co-operatives had the lowest mean. In addition, the relationship between performance of coffee co-operative societies and middlemen was not statistically significant.

CONCLUSION

This study concludes that farmer involvement is a significant determinant of performance affecting performance of coffee co-operative societies in Kiambu County, Kenya as it was found to significantly affect performance of coffee co-operative societies. The management of coffee co-operative societies should therefore consider involving farmers through decision making to increase their socioeconomic benefits by improving their welfare and growth of their income.

RECOMMENDATIONS

The following recommendations are given based on the findings;

1. Management of coffee co-operative societies should continue involving farmers or their members whenever appointment of leaders is taking place.

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2. Decision making in all matters pertaining to the co-operative society should be a collective activity where farmers should always be involved.
3. Since the economy is faced with turbulences, there is need for coffee co-operatives to continually encourage the members on diversifying their income sources
4. There is need for the coffee co-operatives to offer better prices and fast payments for the coffee delivered to the co-operatives to avoid deliveries to the middlemen

AREAS FOR FURTHER RESEARCH

The research findings of this study indicated that the variables under study elucidated 59.8% of performance changes in coffee co-operatives indicating that there are other performance determinants which need to be evaluated. Further, a study should be carried in other counties since the conditions and management of the coffee co-operatives may be different. The study was also limited to management of the coffee co-operatives as the respondents and therefore a similar study should be done where members of the co-operatives are targeted.

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