

**MONITORING AND EVALUATION PRACTICES, MANAGEMENT SUPPORT
AND PERFORMANCE OF DAIRY PROCESSING PROJECTS IN KIAMBU
COUNTY, KENYA**

BY

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DECLARATION

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DEDICATION

The study proposal I'm writing is for my daughter Patience Makena, my wife Beatrice Kairu, and colleagues, whose supportive words and well wishes really helped me.

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ABSTRACT

Projects involving dairy processing are essential to the growth of the dairy sector because they link producers and consumers and enhance the quality of the final products. Dairy farmers, however, have persisted in complaining about the performance of dairy processing plants, claiming that they lose their investment, generate little revenue, and have inconsistent dependability. Despite the existence of cooperatives that direct milk to dairy processing projects on behalf of farmers, a large portion of the milk produced by dairy farmers is sold at low and variable rates throughout the seasons. The study's primary goal was to investigate the relationship between the performance of dairy processing projects in Kiambu County, the moderating effect of managerial support, and monitoring and evaluation practices. Its specific goals were to evaluate the impact of M&E planning on project performance, ascertain the impact of M&E training on project performance, and investigate the impact of M&E reporting on project performance. Furthermore, the study aimed to determine the moderating influence of managerial support on M&E planning and project performance, as well as the relationships between M&E training and project performance and M&E reporting. This study was informed by three theories: program theory, resource-based view theory, and stakeholder engagement theory. The researcher used a stratified random sample strategy to examine a target group of 272 respondents as part of an explanatory research design. The Yamane formula yielded a sample size of 162 responders. The instrument's reliability test yielded reliability coefficients for each construct that were higher than the suggested cutoff of 0.7. Data from the respondents was gathered using questionnaires, and descriptive and inferential statistics were employed for analysis. To examine the effects of the research variables, a hierarchical multiple linear regression model was employed. The study's conclusions showed that the performance of the dairy processing project was significantly impacted by monitoring and evaluation planning ($\beta = 0.975$, $p = 0.013$, <0.05), monitoring and evaluation training ($\beta = -0.753$, $p = 0.014$, <0.05), and monitoring and evaluation reporting ($\beta = 0.949$, $p = 0.001$, <0.05). As demonstrated by the interaction between monitoring and evaluation planning and performance of dairy processing projects ($\beta = 5.478$, $p = 0.004$, <0.05) and the relationship between monitoring and evaluation training and performance of dairy processing projects ($\beta = 3.86$, $p = 0.007$, <0.05), managerial support was found to significantly moderate the relationship between M&E practices. However, the study found no significant moderating influence of managerial support on the link between the performance of dairy processing projects and monitoring and evaluation reporting ($\beta = -1.539$, $p = 0.193 > 0.05$). Thus, the study comes to the conclusion that the success of dairy processing projects is significantly impacted by monitoring and evaluation planning, monitoring and evaluation training, and monitoring and evaluation reporting. Once more, the study finds that managerial support had a negligible moderating influence on monitoring and evaluation reporting and further tempered the link between monitoring and evaluation planning, monitoring and evaluation training, and the performance of dairy processing projects. In order to improve the performance of dairy processing projects, the study advises project managers to make an effort to implement suitable monitoring and assessment procedures. As a result, this work will act as a launching pad for future researchers who are interested in this field. Further research should expand the study by investigating key activities and exploring monitoring and assessment methods to identify gaps and solutions to performance issues.

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ABBREVIATIONS AND ACRONYMS

DFCS - Dairy Farmers Co-operative Society

FAO - Food and Agriculture Organization

IFAD - International Fund for Agricultural Development

ILRI - International Livestock Research Institute

IP - Innovation Platforms

KCC - Kenya Cooperatives Creameries

KDB - Kenya Dairy Board

KPI - Key Performance Indicators

LFA - Logical Framework Approach

OM - Outcome Mapping

PMBok- Project Management Body of Knowledge

PM&E- Participatory Monitoring and Evaluation

R&D -Research and Development

UNDP- United National Development Programme

VC - Value Chain

DEFINITION OF SIGNIFICANT TERMS

Evaluation: It is the practice of analyzing project performance and comparing it to predetermined or anticipated outcomes.

Management support: Managerial support refers to the degree to which managers in an organization would provide necessary resources, encouragement, and guidance to support and facilitate their employees.

Monitoring- the ongoing practice of keeping track of all pertinent tasks and activities inside a project in order to update the status.

M&E practices – the coordinated efforts made to guarantee that the monitoring and evaluation tasks are carried out effectively and serve the desired goal.

Performance- The degree to which human endeavor has accomplished the expected aims and objectives about a project's sustainability, efficiency, effectiveness, safety, or quality.

Planning: The ongoing process of establishing and evaluating the aims and objectives of certain projects

Reports: It is a thorough monitoring and evaluation technique that involves providing recorded evidence of all monitoring and assessment activities conducted on a project to enable future performance improvement and adjustments.

Training – is a kind of educational program that emphasizes improving people's abilities and knowledge.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Overview

This chapter examines the study's history, problem statement, research aims, hypotheses, significance, and scope.

1.2 Background of the study

Monitoring and evaluation (M&E) play a critical role in assessing project effectiveness and ensuring successful project outcomes. Research by (Onyango, 2019) and (Tengan et al., 2021). emphasizes that continuous tracking and evaluation improve project performance by providing essential insights into scope, time, cost, quality, human resources, communication, and risks. (Montes-Guerra et al., n.d.) highlight the importance of monitoring budget, schedule, and quality performance in achieving project success, while (Nchiko & Safari, 2023) establish a statistically significant link between effective M&E methods and key success indicators, such as information systems, training, participation, and institutional environment.

Despite the emphasis on planning, studies by (Jalil, 2024) suggest that the impact of planning on project performance is minimal compared to the role of monitoring and evaluation. The Project Management Body of Knowledge (PMBOK, 2001) outlines the necessity of M&E in managing project outcomes effectively. However, global projects continue to face management challenges, requiring systematic and participatory M&E approaches to enhance performance. Institutional competencies significantly impact the efficiency of M&E implementation, as they determine the capacity to address performance gaps and optimize resource utilization.

The study focuses on the relationship between monitoring and assessment techniques and project performance. Effective M&E practices contribute to project success by providing timely feedback, ensuring accountability, and guiding decision-making. This study explores the extent to which M&E influences dairy processing efficiency, examining variables such as stakeholder involvement, information systems, training, and institutional frameworks. The research also considers the impact of contextual factors, such as technological advancements, market conditions, and policy frameworks, on project outcomes.

The study is anchored on the Results-Based Management (RBM) Theory, which emphasizes performance measurement and outcome-oriented project management. The Theory of Change (ToC) further supports this study by mapping out the causal link between project activities, outputs, and desired impacts. Additionally, the Stakeholder Theory provides insight into the role of stakeholders in ensuring project accountability and effectiveness. These theoretical frameworks guide the study in evaluating how M&E practices drive project success and sustainability.

Kenya's dairy industry is a vital sector, contributing significantly to the economy, food security, and rural livelihoods. The industry faces challenges related to production inefficiencies, fluctuating milk yields, and limited market access. Studies by Kibet et al., (2023) indicate that while the dairy sector contributes 10% to Kenya's GDP, institutional, technological, and economic constraints hinder its growth. Benchmarking studies suggest that production techniques in South Africa and other dairy-producing nations have significantly outperformed Kenya due to better monitoring systems and technological adoption.

Despite extensive research on milk production and demand, there is limited empirical evidence on the role of M&E in improving dairy processing efficiency. Previous studies have largely focused on production metrics, neglecting how monitoring and assessment processes influence project performance. This study aims to bridge this gap by investigating the effectiveness of M&E frameworks in enhancing the success of dairy processing operations in Kiambu County, Kenya.

Given the persistent decline in milk production despite favorable environmental conditions, there is a need to strengthen monitoring and assessment mechanisms to enhance efficiency in dairy processing. This study seeks to contribute valuable insights into how M&E techniques can address existing performance challenges and drive sustainable improvements in Kenya's dairy industry.

1.2.1 Global Perspective on Dairy Processing Project

The demand for value and high-quality dairy products has increased in industrialized nations due to urbanization, population growth, and economic expansion Delgado & Pinilla, (2023). The amount and characteristics of demand vary by country and region. Demand for food in highly populated areas of Latin America, Asia, and some parts of Africa is influenced by urban customers who give strong food quality and safety standards set by retail chains top priority Oparebea Boateng et al., (2023); Weatherspoon & Reardon, (2003) Unlike other African countries including Kenya, the increasing demand drives the expansion of illicit market channels, which have been repeatedly denounced for taking advantage of farmers and undercutting project initiatives. Farmers have employed a number of tactics to cut out middlemen and increase the profitability of their agricultural products in order to combat exploitation by intermediaries. The value chain suffers as a

result of intermediate distributors. Distribution systems are becoming more complicated due to the rise in demand for dairy products and the ensuing market dynamics, which poses a number of difficulties for middlemen and small-scale farmers. Insufficient connections to farms, a lack of refrigerated facilities, a lack of infrastructure investment, and a lack of supportive policies and regulations limit the supply of high-quality, safe, and long-lasting milk Herrero et al., (2010). The farmers deal with a number of issues, such as the scarcity, low quality, and high price of dairy feeds; poor breeding practices; and a lack of animal health services.

1.2.2 Regional Perspective on Monitoring and Evaluation Practices

During its third term in power, the South African government has prioritized monitoring and assessment, a move that has been consistent with the continent's democratic history Kelley, (2012). Many studies have looked at what makes a difference to project success rates in developing countries. Service quality and attitude significantly limit the effectiveness of monitoring and evaluation methodologies for project delivery in South Africa, according to Mbachu & Nkado, (2007). According to the National Monitoring Policy Framework (2005), the South African National Monitoring Policy Framework (NMPF) is the final part of the 2005-approved Policy Framework for Government-Wide Monitoring and Evaluation Practices.

Program performance data and the accuracy of statistical data make up the last two elements.

A thorough government monitoring system is based on the National Monitoring Policy Framework, which was established in 2005. By identifying effective and ineffective

practices that call for corrective action, the primary goals are to enhance the caliber of monitoring and evaluation activities and to foster learning within the government.

Monitoring and assessing project funding in Ghana is extremely difficult for both governmental and non-governmental groups. Ghana's reliance on donor support for development monitoring is highlighted by the fact that donors have designated them as development partners due to their substantial financial contributions to development initiatives Ofori, (2013). Certain requirements that affect the project from the very beginning of planning to the end of its life cycle apply to financial assistance.

1.2.3 Local Perspective on Monitoring and Evaluation Practices

The government's project control mechanisms for monitoring are not well integrated with Kenya's official monitoring systems Abdulkadir, (2014). A project to create a suitable framework for tracking the National Development Program was started in 2005 by the Ministry of Planning and National Development. In order to execute monitoring and evaluation, the Republic of Kenya's government, private sector, and civil societies collaborated on this initiative. Although it hasn't been fully implemented yet, the suggested monitoring system aims to evaluate development projects' performance. Kenya has shown interest in this approach, particularly in relation to the National Integrated Monitoring System (NIMES) that was established in 2003–2004. In order to conform to Kenya's Vision 2030 and its five-year Medium-Term Plan, which replaced the Economic Recovery Strategy, NIMES received additional modifications in 2007/2008.

Deficits in integration and alignment with management and decision-making processes are common in many traditional monitoring techniques. Application teams are under more strain because many projects and programs have clear objectives and tasks. Their

monitoring efforts are restricted to meeting the government-mandated reporting obligations (Steff, 2008). Research by Kim et al. (2008) indicated that only 33% of private sector companies in Kenya had implemented monitoring procedures to improve their services. Identifying the variables that impede the full integration of monitoring techniques between the commercial and public sectors in Kenya is essential.

Dairy processing enterprises in Kenya were established during the colonial period, prior to the onset of dairy commercialization. Subsequent advancements in the sector involved the acquisition of foreign herds to enhance native cattle, the establishment of policies, and the development of an institutional regulatory framework Ochieng & Maxon, (1992). Kenya Corporation Creameries (KCC) was established in 1925, marking it as the first processing company in the region (Muriuki et al., 2003). The corporations established depots across multiple regions of Kenya to facilitate the distribution of milk products and to offer support to farmers and dairy societies. They achieved significant recognition and market dominance for over sixty years; however, they subsequently experienced a decline in performance and the eventual collapse of certain corporations in the 1990s, attributed to the liberalization of dairy processing. Despite significant criticism regarding the decline in milk output, initiatives aimed at enhancing dairy production did not result in any improvement in KCC's performance. Private processors emerged as a result of the KCC monopoly's deregulation and eventual collapse in 1992, and at first they performed admirably. Recently, there has been a consolidation, acquisition, and closure of new processing factories. Currently, the dairy marketing industry is dominated by unofficial small-scale milk merchants, especially when it comes to the distribution of raw milk, which accounts for more than 70% of the country's production. On the other hand, just 30% of

the market is made up of official dairy processors (KDB, 2018). In 2018, the Kenya Dairy Board reported that there were approximately 240 small processors and 30 major processors in Kenya. According to (Njogu, 2023), Kenya's dairy industry contributes 6-8% of the country's GDP and 14% of its agricultural GDP. According to a 2013 analysis by FoodBusinessAfrica.com, Kenya is acknowledged as one of Africa's top dairy producers. Kenya's agriculture subsector, which produces more than 5 billion liters of milk yearly, is essential to the country's economic growth Mukundi, (2018).

Sameer Agriculture and Livestock Ltd (Daima), Githunguri Dairy Farmers Cooperative Society (Githunguri DFCS), New Kenya Cooperative Creameries (NKCC), and Brookside Dairy Ltd (40 percent) are the five most prominent enterprises in the milk processing industry.

Kinangop, Kabianga Dairy, and Meru Dairy Cooperative Society are some mid-level dairy farms with a significant intake. Raka Cheese, Brown's Cheese, Bio Food Products, Razco Ltd., and Alpha Dairy are a few of the smaller dairy companies that focus on producing dairy products.

Large dairy processing companies are increasingly interested in acquiring and combining with smaller and medium-sized dairies. According to Dankit and Njoroge (2014), there are a number of dairies that have been purchased by Brookside Dairy. These include Ilara, Delamere, Spinknit (Tuzo), and Buzeki (Molo milk).

The business has outperformed the other three market leaders with a 41% market growth rate. Since its founding in 1925, New KCC has worked closely with small-scale farmers and has a well-known brand Oduor, (2013). In 2020, Githunguri Dairy encountered a comparable scenario when it was publicly disclosed via television and newspapers that

Brookside Dairies was in the process of acquiring it for Ksh 6 billion. This caused conflicts among stakeholders because of the dairy's inadequate performance, ultimately leading to a workers' strike.

Kenya has excess capacity and the most competitive processing sector in the area. In the right circumstances, smallholder dairy producers can successfully produce for this capacity. There are regional differences in the development of dairy products Otieno, (2020). There are many institutional, technical, financial, and marketing challenges in the fields of value addition, advertising, and dairy production in Kenya, despite the fact that the industry contributes significantly to household incomes, the economy, and food security Karanja, (2003).

The degree to which processors encounter difficulties, such as variations in the supply of milk, high production and processing expenses, and competition, is unknown and could be adversely affecting their performance. Despite increased investment in milk processing to keep up with surging demand, this remains true Mwangi & Gakobo, (2018). On the other hand, there have been reports of milk spills, as well as constant increases in milk production and demand for milk products.

1.2.4 Kiambu County Dairy Processing

There are twelve sub-counties in Kiambu County. Regretfully, official and thorough data about dairy production and co-ops in the sub-counties of Ruiru, Gatundu North, Thika, and Juja are lacking. This is because the milk produced in these areas is sold through informal channels rather than legitimate ones. Out of the total of 108.9 million litres of milk produced annually in the eight constituencies, the majority of it, 75.5 million litres, comes

from Githunguri constituency. The remaining seven constituencies of Gatundu North, Gatundu South, Juja, Kabete, Kiambaa, The Kiambu and Kikuyu Constituencies each contribute 33.4 million liters, according to the 2013 Annual Report of the Daily Co-ops in Kiambu County. The co-operative societies acquire raw milk, which is subsequently processed and packaged as fresh, mala, yoghurt, butter, or ghee products. There are a total of 415 collection centers registered to co-operative societies in the county, with 330 of them currently functioning. In the past, Kiambu County's milk production has grown but processing facility output has dropped at the same time. Through the use of the zero-grazing method, both large and small dairy producers produce milk in this county. In Nairobi, the milk is sold by street sellers and distributed by cooperative groups. The milk is then sold to dairy processing plants by the cooperative organizations. Since 2012, milk production has increased by 3.5% to 5%, and the expansion of dairy processing facilities has been inversely correlated with this rise. According to ILRI data, improving supply-demand relationships, the need for value addition, and rising demand are all anticipated to help the dairy business. However, they have not achieved maximum benefits by selling to processing projects, resulting in functioning below their full potential. Despite the increasing urbanization and the reliance on processed long-life milk and quality product needs, The lack of progress makes it difficult to determine the benefits that farmers derive from these projects.

1.3 Problem Statement

The dairy industry plays a crucial role in Kenya's economy, providing income opportunities, improving nutritional standards, and creating employment, particularly for small-scale farmers. Despite the sector's potential for growth, challenges within the dairy

value chain have hindered the industry's ability to meet the rising demand for processed dairy products. These challenges include high production costs, limited access to quality inputs and markets, inadequate infrastructure, low technology adoption, and poor disease management Mwangi & Gakobo, (2018). As a result, the sector has not fully leveraged its potential in contributing to food security and economic development.

Effective monitoring and evaluation (M&E) practices are essential for ensuring efficiency, quality, and sustainability in dairy processing projects. However, empirical research indicates mixed results regarding the impact of M&E on project performance Kimeu, (2021). Some studies suggest that M&E contributes positively to project success, while others indicate that its effects are minimal or inconclusive. This inconsistency necessitates further research to examine the role of M&E in the performance of dairy processing projects, particularly within the Kenyan context.

In Kiambu County, dairy processing projects have faced significant performance challenges due to inadequate managerial support, limited funding for M&E practices, and ineffective implementation strategies. The existing research has not sufficiently addressed how managerial support influences the relationship between M&E practices and dairy processing project success. Furthermore, there is limited empirical evidence on how improved M&E practices can benefit stakeholders, including smallholder dairy farmers, by enhancing productivity, profitability, and overall project sustainability.

This study aims to bridge these gaps by investigating the impact of managerial support on the effectiveness of M&E in dairy processing projects in Kiambu County. It seeks to establish whether a well-structured M&E framework can contribute to improved project outcomes, benefiting dairy farmers and enhancing value addition in the sector. By focusing

on the upstream value addition chain, the study will provide insights into how enhanced monitoring and evaluation practices can optimize the performance of dairy processing projects, thereby addressing existing inefficiencies and unlocking the sector's full potential.

1.4 Objective of the Study

1.4.1 General Objective

To examine the moderating effect of managerial support on the relationship between monitoring and evaluation practices and performance of dairy processing project, Kiambu County.

1.4.2 Specific objectives

The specific objectives of this study will be to;

1. To assess the effect of M&E Planning on performance of dairy processing projects in Kiambu County.
2. To determine the effect of M&E training on performance of dairy processing projects in Kiambu County.
3. To examine the effect of M&E Reporting on performance of dairy processing projects in Kiambu County.
- 4a. To establish the moderating effect of managerial support on the relationship between
M&E planning and performance of dairy processing projects in Kiambu County.
- 4b. To establish the moderating effect of managerial support on the relationship between

M&E training and performance of dairy processing projects in Kiambu County.

4c. To establish the moderating effect of managerial support on the relationship between

M&E reporting and performance of dairy processing projects in Kiambu County.

1.3 Research Hypotheses

The formulation of research hypotheses provides a structured approach to examining the relationship between monitoring and evaluation (M&E) practices and the performance of dairy processing projects in Kiambu County. This study explores three key dimensions of M&E; planning, training, and reporting and their effects on project success. Given the importance of managerial support in facilitating effective M&E implementation, the study further investigates its moderating role in these relationships. The null hypotheses (H_0) are designed to test whether M&E planning, training, and reporting significantly influence dairy project performance and whether managerial support strengthens or weakens these effects. By testing these hypotheses, the study aims to provide empirical evidence on the effectiveness of M&E practices and offer insights into how managerial involvement can enhance dairy project outcomes.

H0₁: M&E planning has no significant effect on performance of dairy processing projects in Kiambu County.

H0₂: M&E training has no significant effect on performance of dairy processing projects in Kiambu County.

H0₃: M&E reporting has no significant effect on performance of dairy processing projects in Kiambu County.

H0_{4a}: Managerial support does not moderate the relationship between M&E planning and performance of dairy processing projects in Kiambu County.

H0_{4b}: Managerial support does not moderate the relationship between M&E training and performance of dairy processing projects in Kiambu County.

H0_{4c}: Managerial support does not moderate the relationship between M&E reporting and performance of dairy processing projects in Kiambu County.

1.4 Importance of the Study

This study contributes significantly to the field of monitoring and evaluation (M&E) by expanding the body of knowledge on how M&E practices influence the performance of dairy processing projects. By examining the roles of M&E planning, training, and reporting, along with the moderating effect of managerial support, this research provides empirical insights that can inform best practices in project management within the dairy sector. The findings will enhance understanding of effective M&E strategies, offering valuable knowledge for scholars, researchers, and practitioners seeking to improve project performance through structured evaluation mechanisms.

From a policy perspective, the study will assist national and county governments in formulating policies and regulatory frameworks that strengthen M&E implementation in the dairy industry. Policymakers can use the insights gained to develop guidelines that enhance project monitoring, resource allocation, and accountability. Additionally, investors and stakeholders in the dairy sector can utilize the recommendations to make informed decisions on project management and sustainability.

The study is also beneficial to farmers and dairy entrepreneurs, as it highlights key factors influencing project success. By understanding the role of M&E, farmers can adopt better management practices that improve productivity and profitability. Dairy cooperatives and processing firms will also gain from the study by applying the findings to optimize operational efficiency and competitiveness in the market.

Furthermore, the research contributes to theory development by examining the interaction between M&E practices and managerial support in influencing project performance. This study builds upon existing theoretical frameworks in project evaluation and management, offering a contextualized understanding relevant to Kenya's dairy sector. It provides empirical evidence to either validate or challenge existing theories on M&E effectiveness in agribusiness projects.

Lastly, this study identifies potential areas for further research, particularly in evaluating the long-term impact of M&E practices on sustainability and growth in the dairy industry. Future studies could explore how technology-driven M&E systems, such as data analytics and digital tracking, enhance performance in agricultural value chains. By addressing existing knowledge gaps, this research serves as a foundation for continuous improvement and innovation in monitoring and evaluation within Kenya's dairy sector and beyond.

1.5 Scope of the Study

This study examines the impact of monitoring and evaluation (M&E) practices and managerial support on the performance of dairy processing projects in Kiambu County, Kenya. The research focuses on key M&E components, including planning, training, and reporting, as critical determinants of project success. Managerial support is considered a moderating factor that influences the effectiveness of these M&E practices in achieving

desired project outcomes. Other factors affecting dairy processing performance, such as financial constraints, market conditions, or technological advancements, were not within the scope of this study.

Kiambu County was selected due to its significant role in Kenya's dairy industry, providing a relevant context for analyzing the challenges and opportunities in dairy processing. The study adopted an explanatory survey research design, targeting 248 stakeholders, including clients, suppliers, project managers, monitoring officers, and project engineers. Using Yamane's (1967) formula, a final sample of 152 respondents was selected through a stratified sampling approach to ensure diverse representation across various levels of the dairy processing sector. By focusing on Kiambu County, this study aims to generate specific insights that can inform policy and practice in similar dairy processing contexts in Kenya and other developing nations.

The purpose of this research was to examine the impact of managerial buy-in on the correlation between project performance and assessment metrics for Kiambu County's dairy processing project. Also, an explanatory survey was all that was utilized for research in this study. The study aimed to gather responses from 248 people: 54 clients, 108 suppliers, 36 project managers, 40 monitoring officers, 34 project engineers.

Using Yamane, (1967) technique for calculating sample size and a stratified selection strategy, 152 respondents were selected for the study. Participants in the study filled out questionnaires from a range of organizations, including county offices, project entities, and dairy enterprises. The theories of Stakeholder Engagement, Resource-Based Programs, and Views served as the basis for this investigation.

1.6 Assumptions of the Study

The study expects that respondents will provide objective, honest, and unbiased feedback, ensuring the reliability of the findings. It is presumed that participants will fully cooperate and accurately reflect their experiences and perspectives regarding M&E practices in the dairy processing sector. This will enhance the credibility of the collected data and the conclusions drawn from the study.

The selected sample is presumed to fairly represent the entire population under investigation, ensuring that the results are generalizable to similar contexts. Furthermore, the data collection tool is considered valid, meaning it is appropriate, significant, and effective in gathering relevant information for the study. The study also expects that external factors influencing dairy processing performance will remain stable during the research period, minimizing potential biases in the findings.

1.7 Limitations and Challenges of the Study

While the study successfully outlined its objectives and significance, several limitations and challenges were encountered during the research process. The following are the key challenges and the strategies used to mitigate them:

1. Response Bias and Accuracy of Data

One of the primary challenges was ensuring that respondents provided objective, honest, and unbiased feedback. Some participants might have withheld critical information or provided socially desirable responses. To address this, the study ensured anonymity and confidentiality in data collection and encouraged respondents to provide truthful insights by clarifying the purpose of the research.

2. Sample Representation and Generalizability

The study relied on a selected sample of respondents to represent the broader population within the dairy processing sector. However, there was a potential risk that the sample might not fully capture the diversity of perspectives across different dairy processing plants. To mitigate this, the study employed a stratified random sampling technique to ensure fair representation across different groups and enhance the generalizability of the findings.

3. External Factors and Stability of the Research Environment

External factors such as economic shifts, policy changes, or market fluctuations could have influenced dairy project performance during the study period. These changes posed a challenge in isolating the direct impact of M&E practices. To minimize this limitation, the study focused on a well-defined research timeframe and controlled for external variables by analyzing historical data trends to support its conclusions.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter provides a literature review on the topic of monitoring and evaluation processes and their performance in relation to dairy processing plants in Kiambu County, Kenya. The review includes empirical material, theoretical frameworks, and research concepts in this area. This chapter will discuss the evaluation and monitoring processes that are pertinent to this research. The empirical literature will also examine earlier studies and perspectives from different stakeholders and geographical areas on M&E in dairy development and growth.

2.2 Concepts

2.2.1 Concept of Performance

Economic cooperation is the main objective of dairy processing projects. Members are able to take advantage of economies of scale, gain access to certain market services, and participate in activities that would be too expensive or impossible for them to undertake alone. The performance of processors is subject to varying interpretations and expectations due to variances in their nature and essence. There are several definitions and variables that can affect the assessment of dairy processing projects. According to Kerzner et al., (2022), a comprehensive assessment of the success of dairy processing plants should take into account a number of factors. Numerous studies have been conducted in various domains, looking at the factors that affect dairy developments' performance and offering various management techniques to improve it R. W. Mwangi, (2013). The effectiveness of Ethiopian dairy marketing cooperatives was investigated by Singh et al., (2025).

Institutional and socioeconomic factors were the variables that were analyzed. The number of dairy animals, family size, land size, education level, milk price, attitudes, and management skills of dairy producers were all found to be strongly positively correlated using the logit regression model. According to this study, management factors like monitoring and assessment methods may account for the success of dairy processing operations.

2.2.2 Performance Measures of Dairy Processing Projects

To measure the success of dairy projects, various definitions have been used. Cook & Burrell, (2013) outlined three essential elements for performance evaluation: Financial, organizational, and operational. After conducting a review of twenty-eight dairy ventures in Malawi, the study discovered a significant positive correlation between the success of the dairy cooperatives and factors including open membership, governance, and management practices. Njoroge, (2018) discovered four important factors that improved the efficacy of dairy initiatives in a similarly related study. These aspects include strong leadership, the size of the group, the quality of business relationships among members, and the process of selecting members during the establishment of the group. Empirical research has examined the performance of dairy cooperative societies from several perspectives.

The evolution of dairy products has been evaluated using a variety of measures. A study on the effectiveness of dairy cooperatives in India was carried out by Balasubramanian, (2024). The annual variation in society memberships served as the performance evaluation metric.

, the proportion of houses encompassed in rural areas, the quantity of milk gathered per member, and the price of milk per liter, all measured over a span of three years. Osei-

Amponsah et al., (2020) conducted a study in Ghana to examine the performance of dairy projects. The study focused on three key aspects: stakeholders' satisfaction, management objectives, and benefits to beneficiaries. In a similar vein, Pietrzak et al., (2023) assessed the efficacy of dairy cooperatives by measuring the contentment and growth of their staff members as well as the satisfaction of their customers or intended users. As criteria for assessing its performance, the author used consumer benefit, operational efficiency, intervention success, and the potential benefit to the cooperative as a whole. Similarly, Angus et al., (2005) offer a values-based model that evaluates performance using operation value and net execution cost. In a study on the effectiveness of dairy cooperatives, Sutar et al., (2023) used a range of performance evaluation measures, such as the number of cows per family, cooperative membership, and milk output in liters per household.

Researchers have utilized a variety of performance measurement dimensions to evaluate various therapies. There are fifteen performance indicators in dairy production that can be grouped into ten main types, as stated by Capusneanu et al., (2012). These areas include production rate, cost management, capital utilization, profitability, repayment schedule, solvency, mission alignment, preservation of the family's level of living and an engaged workforce

, among others. Daniel et al., (2008) employed a profitability model to assess the success of dairy projects in the Asian dairy industry. According to the study, calculating the difference between milk income and feed cost is a straightforward and convenient method to assess the profitability of dairy farms owned by small-scale farmers. In their study on small-holder dairy cooperatives in Zimbabwe, Ngongoni et al., (2006) made use of

performance metrics such as milk yields, calving rates, age at first calving, and calving intervals.

Baur et al., (2017) in Malawi provided more evidence to support these findings. They measured the performance of dairy cooperative societies by using indicators such as dairy milk production per cow, employment generation, and project extension. Although several measurement indicators are used to assess the performance of dairy cooperatives, there appears to be a correlation among the acquired results.

Prior research has measured performance using a variety of models. The models encompass things like manufacturing cost, customer happiness, profitability, and staff satisfaction, or a mix of them. The effectiveness of dairy programs was investigated by Reshetkina et al., (2023) from the viewpoint of small-scale farmers. Improved profitability per cow, risk reduction, and lower production costs were among the performance measurement methods used. Both Mumba, (2016) from Zambia and Cain et al., (2007) from Pakistan's Punjab region examined a complex model of dairy cooperative performance.

This model incorporated both financial and productivity measurements as indicators of performance. These studies are notable for their focus on this specific approach to measuring performance. The findings showed that increased managerial support enhances small-scale dairy producers' profitability by having a beneficial effect on dairy cooperative performance. Several performance measuring indicators can be incorporated through the use of integrated models, producing more accurate and trustworthy results. The researcher will evaluate the effectiveness of the dairy processing projects in Kiambu dairies by utilizing specific performance indicators from several aspects of performance, as

developed by previous researchers, to gain a deeper understanding. To accomplish triangulation, Scott-Young & Samson, (2008) recommend combining performance dimensions. The study's performance indicators for dairy processing projects had the following components: the regularity with which farmers delivered milk, the amount of money made from processed milk sales, the level of satisfaction among stakeholders, the demand from consumers, and the support from the government.

2.2.3 Concept of Monitoring and Evaluation Planning

Research on monitoring and evaluation has shown that it is best to include M&E planning into the initial stages of project planning Pellerin & Perrier, (2019). Nonetheless, there are academics who argue that it has to happen after the planning stage Pellerin & Perrier, (2019). Regardless of varying viewpoints, it is universally acknowledged among experts that the planning process must incorporate guidelines for project assessment Cleland et al., (2007). The impact of the M&E plan on project performance is a significant component of this study. According to the earlier research reviewed, M&E planning frequently outlines the methods and processes used to track the predetermined project goals and the anticipated relationships between monitoring and evaluation and the project cycle. Additional elements included in monitoring and evaluation (M&E) planning include clearly defined conceptual metrics and definitions, as well as the necessary baseline data. This also involves establishing a monitoring schedule, determining which data sources should be used and supplying M&E operations cost estimates. A list of collaborations and partnerships that will help accomplish desired results is typically included in M&E plans, in addition to the sources mentioned above Kuchta & Skowron, (2016). Furthermore, these plans outline strategies for disseminating and utilizing the acquired information. This

demonstrates that the process of monitoring and evaluation planning encompasses all necessary elements to provide timely identification of progress or deficiencies. The literature also suggests that while creating a Monitoring and Evaluation (M&E) plan, there are important considerations to make. Brignall & Modell (2010) state that these issues fall under the category of resources, which are the funds and time needed to complete the tasks. Is the project equipped with the internal resources and capabilities required to carry out the planned monitoring and evaluation tasks, including data analysis? Viability is one of the other elements Armstrong & Baron (2012) consider and acknowledge. Do the suggested activities align with reality? Can we successfully execute them? Feasibility: Does the suggested timeline align with the practicality of carrying out the specified activities? Ethics: What ethical issues and challenges arise when the suggested monitoring and evaluation (M&E) activities are implemented, and is a plan in place to deal with them? Has a research ethics committee received a protocol for review? These elements lead us to the conclusion that the monitoring and evaluation (M&E) planning is comprehensive enough to guarantee efficient oversight of the project's development throughout execution. Stakeholders are people or organizations that could directly or indirectly affect, or be affected by, the project's or program's outcomes, either positively or negatively. These individuals might be categorized as either primary or secondary stakeholders. Primary stakeholders refer to the individuals or groups who receive the benefits of a development or intervention, or those who are directly impacted by it. According to the Asian Development Bank's 2000 definition, secondary stakeholders are people or organizations that can affect a development intervention directly or indirectly. Any organization or individual that can affect or have an impact on a company's or goal's performance is

considered a stakeholder (Freeman, 1984). The study states that people or organizations that actively participate in projects and whose interests are impacted by the project's execution or completion are considered project stakeholders (PMI, 2000).

Participation is considered a collaborative effort that relies on communication among different stakeholders, during which the agenda is collectively determined based on local perspectives and indigenous knowledge is valued and honored (OECD, 1994). Participation can be defined as the active engagement of individuals in the process of making decisions, implementing programs, and evaluating their outcomes, so allowing them to share in the benefits of development initiatives (Cohen and Uphoff, 1977).

2.2.4 Concept of Monitoring and Evaluation Training

According to the PMBoK, human resource training is the process by which the project team gains the abilities, competencies, and attributes necessary to accomplish the project's aims and objectives. Project management researchers have been investigating why poorly trained project monitoring and evaluation (M&E) teams result in poor project performance and project failures (Andersen et al., 2006). Project team competency is defined by the Project Management Competency Development (PMCD) Framework as the continuous application of knowledge, abilities, and individual behaviors by the project team to effectively complete projects that meet the objectives of many stakeholders (PMI, 2007). The Latin word "competentia," which denotes the power to judge and the right to speak, is the root of the word "competence" in training (Caupine et al., 2006). Competence, according to the English lexicon, is the condition of being adequately sufficient or suitable. Training is demonstrated by competency assessments, which evaluate the knowledge, skills, or abilities that have been learned. Training is the fundamental process of imparting

knowledge to an individual, which leads to the achievement of efficient and/or exceptional performance in a specific task. The reference is to Boyatzis' work published in 1982. Any motivation, characteristic, aptitude, aspect of one's self-concept or social role, or set of fundamental knowledge is referred to as a basic attribute. Spencer and Spencer (1993) define training as the essential process of improving a person's skills and talents, which is closely related to attaining superior and outstanding performance in a particular work or setting.

2.2.5 Concept of Monitoring and Evaluation Reporting

In order to inform future actions and updates, it is essential to compile reports on project performance during monitoring and assessment. This will ultimately result in the collection of data proportionate to the complexity of the project. To improve the performance of the project, it is necessary to determine the method of comprehending or evaluating this substantial quantity of information. According to Shapiro (2001), data analysis refers to the systematic examination of comprehensive information in order to gain insights into patterns, trends, and interpretations. An essential aspect of project analysis is the presence of a well-structured collection of data, which is why the notion of information reporting is crucial in monitoring and evaluation practices. Reports are a data management system that provide essential information for the efficient and effective management of projects (Beynon-Davies, 2008). M&E reports serve as the fundamental repository of project performance information, from which data is retrieved, stored, and decisions are made for future activities.

Project managers may readily access and examine M&E data since it is gathered and kept in an intuitive database. Based on this study, it is evident that an M&E report has a

significant role in determining project performance by serving as a means to organize crucial information gathered about a project. Hailey & Sorgenfrei (2009) argue that generating reports is crucial because they provide necessary information at every level of project management, allowing for performance evaluation. Reports also serve to emphasize the crucial variables necessary for the effective operation of the project (Cheng, Daint, & Moore, 2007).

Because it focuses on management, reporting is an important part of monitoring and evaluation (M&E) practice. It's crucial to evaluate management's requirements and the project's overarching goals before writing any reports. The design of the reports should be done in a hierarchical manner, starting with the highest level. Olive (2002) highlights the significance of preserving reliable information in reports for future project execution. Another characteristic of a report is its integrative nature, as it takes a comprehensive perspective. It encompasses all the operational domains of the project. It integrates information from all aspects of a project. Undoubtedly, these characteristics establish a report as the fundamental element of monitoring and evaluation (M&E) methodology, which significantly influences performance. The fact that a report can be used as a tool for re-planning is a big plus. Information gathering, organizing, retrieval, and sharing—which may incorporate action plans and decision-making—are all included in a report. According to the study's findings, a database of this type is a useful information resource that can be used to improve the project's performance.

2.3 Theoretical Review

The relevant theories about monitoring and evaluation practices in the execution of dairy processing projects are examined in this part. A researcher needs to be knowledgeable

about the theories that are relevant to their field of study because a theory is a systematic explanation of an event (Durham & Stokes, 2015; Shapira, 2011). The theories under consideration are related to logical framework, financial availability, project team competency, information and communication, and stakeholder participation.

2.3.1 Stakeholder Engagement Theory

The hypothesis originated in management literature and may be dated back to the Great Depression in the USA, as documented by Pretson (1990). Freeman (1984) attributed the origin of the term "stakeholder" to studies carried out by the Stanford studies Institute (SRI). SRI defines a stakeholder as "those groups whose support is essential for the organization's survival." In addition, he broadened this concept by encompassing any collective or individual entity that can be impacted by the fulfillment of the company's objective. A firm's owners, customers, employees, and suppliers are just a few of the various interest groups that may be clearly understood according to stakeholder engagement theory. Three perspectives—descriptive, normative, and instrumental—are used to group the theory.

The ability to recognize the characteristics of system participants and comprehend how an organization engages with them is known as descriptive viewpoint (Brenner and Cochran, 1991). Understanding the relationship between a company and its stakeholders is made easier by the descriptive approach. The normative viewpoint, which is informed by the fairness principle, views stakeholders as having inherent value. It acknowledges that every person has a valid and equal interest in living a safe and stable life and that decisions eventually affect them. Chamberer's (1994) research on RRA serves as an example of this

point of view, highlighting the significance of understanding and meeting stakeholder requirements in development. This is achieved through conducting stakeholder interviews and soliciting solutions from the community itself. The instrumental approach regards stakeholders as a primary objective, and it is stated that organizations should prioritize the interests of stakeholders as this ultimately leads to success.

2.3.2 Resource Based View Theory

Penrose (1959) developed the Resource-Based View (RBV), which holds that an organization should be viewed as a collection of both tangible and intangible resources that are connected within an organizational structure. Furthermore, resources were divided into two categories by Hafeez et al. (2007): intellectual and physical assets. Because they are physically present, physical assets like plants and equipment are simple to identify (Hafeez et al., 2007).

The intangible parts of human resources, including employees' knowledge, abilities, and capacities, are called intellectual capital (Hafeez et al., 2007). According to Gottschalk and Solli-Saether (2005), the Resource-Based View (RBV) has two main components. The RBV states that in order for a resource to provide a competitive advantage, it must both be economically valuable and meet certain criteria. Some of these requirements include being currently scarce, being hard to reproduce or counterfeit, not being substitutable, and not being freely available in factor marketplaces (McIvor, 2009). Moreover, the resources available to a company are directly related to its success, according to studies conducted by Gottschalk and Solli-Saether (2005) and McIvor (2009).

Newbert divided theoretical approaches into four groups in his 2007 study: conceptual-level, organizing approach, resource heterogeneity, and dynamic capacity. The resource heterogeneity method posits that the competitive advantage or performance of a corporation is influenced by its control over a certain resource, capability, or core competence. The organizing technique commonly examines the factors at the organizational level that enable the efficient exploitation of resources and skills. Researchers employing the conceptual-level method aim to examine whether the characteristics of a resource outlined by Barney (1991), such as its worth, rarity, and difficulty to imitate, can adequately account for performance. The resource-level operations that affect performance or competitive advantage are the main emphasis of the dynamic capabilities approach. It examines the connection between a certain resource and a specific dynamic capability by making the resource an independent variable.

2.3.3 Program Theory

The Program Theory is the most relevant theory for this research on *Monitoring and Evaluation (M&E) Practices, Management Support, and Performance of Dairy Processing Projects in Kiambu County, Kenya*. This is because the theory provides a structured framework for assessing how M&E practices contribute to project success by linking inputs, processes, outputs, and outcomes. Program Theory is widely used in M&E to explain the causal mechanisms behind project performance, helping to identify whether monitoring activities, training, reporting, and managerial support lead to measurable improvements. Given that the study focuses on evaluating the relationship between M&E practices and dairy project performance, Program Theory offers a robust foundation for assessing the effectiveness of M&E processes in achieving project objectives. It also aligns

with the logical framework approach, enabling stakeholders to track performance, optimize processes, and improve decision-making in dairy processing initiatives.

Peter Rossi, Huey Chen, Carol Weiss, and Michael Quinn Patton were the creators of the program theory (1995). This idea primarily centers around the mechanisms for effecting change and the individuals accountable for it. Logical models, commonly employed to depict program theory, illustrate the utilization of general logic in an intervention. The theory is incorporated into the applied development assessment field and the theory of change framework. Weiss states that the theory's proponents have spent several years trying to figure out how to link program theories with evaluation.

Program theory has long been utilized as a practical instrument in monitoring evaluations. It is renowned for its effective method in resolving issues and addressing the necessity of conducting assessments to supplement the findings. Furthermore, it offers strategies for handling crucial evaluation components in an efficient manner (Sethi and Philippines, 2012). Human service programs that are expressly designed to solve societal challenges are a part of many organizations' transactions. The programs are adaptable and can be changed in response to certain situations.

This phenomena is explained by the program theory employs a systematic approach based on logical framework methodology. The program theory is an all-encompassing rendition of the logic model. A graphical scale was used to display the data in order to tie it to the logical model. Top management, stakeholder participation, and result evaluation are all made easier by the logical model (Hosley, 2009). According to Bickman (2007), the theory is a conceptual and practical framework that explains how a fictitious program operates. Lipsey (2011) posited that it is a thesis concerning the conversion of input into output.

Putting a number on the change by contrasting the input and expected result side by side. This exemplifies the desired influence of process and program components on outcomes. In order to guarantee the successful development and continuous upkeep of the envisioned service system, Rossi (2012) proposed that a program theory includes an organizational design for efficiently allocating resources and managing program operations. The theory also helps in formulating plans for efficiently distributing cash and evaluating how the intended recipients obtain the support they require. The interdependence of service delivery systems is what makes this happen. Comprehensive insights into how the planned activities for specific target individuals contribute to the expected social benefits are provided by program theory. An illustration of the benefits of using a theory-based framework in monitoring and evaluation is provided by Uitto (2010). This feature includes the ability to identify desired and undesirable program outcomes as well as the capacity to allocate project results to specific projects or activities. The evaluator can have a thorough grasp of the fundamental causes and workings of the program's efficacy by employing theory-based assessments (Rossi, 2012).

The input-output model makes use of the concept to track performance, communicate results, and improve project performance. When Monitoring and Evaluation (M&E) processes are used effectively, inputs are processed efficiently, which eventually produces measurable outputs. The influence of altering input and processes to get better output and provide desirable results is explained by program theory. The variables that affect the process's output, or performance, are called inputs. The planning process, technical know-how, stakeholder involvement, and managerial participation are the variables in this specific scenario (Rossi, 2012).

The program's goals are explained by the logical model, which also identifies expected causal relationships in the result chain, which includes inputs, processes, outputs, and the final destination. The link makes it easier to identify performance metrics at every logical model stage. By regularly observing the project's progress and taking corrective action when deviations occur, it manages the project's uncertainties and makes sure that the goals are met.

According to a program theory, the program has achieved a single, immediate result. It helps ascertain whether there has been a change in performance toward the desired level.

2.4 Empirical Literature - Conceptual review

The concept of monitoring and evaluation (M&E) practices is critical in assessing and improving the performance of development projects, including dairy processing initiatives. Effective M&E involves systematic data collection, analysis, and reporting to track progress, identify challenges, and inform decision-making. In the context of dairy processing projects in Kiambu County, M&E planning, training, and reporting play a significant role in enhancing efficiency, productivity, and sustainability. However, the success of these projects also depends on management support, which influences the adoption and implementation of M&E practices. Strong managerial involvement ensures resource allocation, policy enforcement, and stakeholder engagement, ultimately leading to improved project performance. This review explores the interplay between M&E practices, management support, and project performance, providing insights into how these elements contribute to the growth and sustainability of dairy processing projects in Kenya.

2.4.1 Evolution of Monitoring and Evaluation

Over time, there have been modifications to the conceptual framework and philosophical position of monitoring and evaluation (M&E). Project management has evolved significantly over time, and the evolution of M&E practice reflects these changes. In line with the dominant social-scientific movement of the time, M&E practice in the early 1950s was mostly concentrated on the prudent use of resources (Rodgers & Williams, 2006). In the late 1950s, when project management was formally recognized as a distinct profession developed from the management discipline, there was discontent with the field, which was represented in the emphasis on project monitoring and assessment (Cleland & Ireland, 2007). The emphasis on monitoring and evaluation aimed to prioritize the actual experiences of individuals and ensure that a wide range of stakeholders had the opportunity to express their perspectives. This was a secondary objective of the assessment process, as outlined by Schwandt and Burgon in 2006. Currently, it is crucial to address the frequently posed question regarding the classification of M&E as a field, an approach, or a discipline. Because of M&E's distinct development, Scriven (2010) categorized the field as "trans-disciplinary," a term that is now frequently used to describe M&E rather than discipline or field. "What constitutes M&E?" is an important conceptual conundrum that is similar to the categorization of M&E. According to the reviewed literature, there is no widely agreed-upon definition of M&E, which may be because its purpose is not widely agreed upon (Khan 2001; Shapiro 2001; Wysocki & McGary 2003; Kohli & Chitkara 2008). Thus, the "what is?" inquiry is influenced by the purpose question. Fostering accountability, openness, and organizational learning are some of the different goals. The approach used depends on the specific purpose at hand (Binnendijk, 1989). Additionally, there would be

various combinations of the aforementioned elements, which would be influenced by the specific circumstances and topic at hand. Due to this factor, Monitoring and Evaluation (M&E) can sometimes be perceived as an ambiguous concept. The variety is seen in the approaches taken and the topics studied, which include different kinds of monitoring and assessment (Jones, 2011).

An essential part of the project management cycle is project monitoring and assessment. Projects that are progressing internationally depend on a regular or consistent process of data collection to evaluate their success in regard to objectives and targets. Enhancing project performance is significantly impacted by controlled, monitoring, and evaluation (Westland, 2019). The project's poor performance can be attributed to the project management cycle's insufficient monitoring and evaluation implementation.

The donor frequently requires M&E practices as a condition, with the particular requirement that 10% of the project budget be set aside for M&E. Only a few projects have been the subject of a restricted review of some aspects of the monitoring and evaluation (M&E) process and its effect on project performance. Most of the research on this topic is broad in scope. Only donor-supported projects in Kenya are included in the analysis of certain monitoring and evaluation (M&E) techniques, such as process planning, technical proficiency, stakeholder engagement, and management involvement, and their effects on project performance.

2.4.2 Types of Monitoring and Evaluation

Notable similarities are seen when different specialists examine M&E classifications. Depending on the focus, there are two types of monitoring and evaluation (M&E): implementation-based monitoring (IBM) and results-based monitoring and evaluation

(RBM). A Results-Based Management (RBM) system was created by Kusek & Rist (2004) to provide input on the actual goals and results of projects. RBM is usually conducted in cooperation with strategic partners and involves systematic reporting on the advancements achieved in reaching the intended outcomes, according to Parks et al. (2012). As the project progresses, resource-based management (RBM) helps determine whether the intended results are being or will be attained (Naidoo, 2011). The approach known as implementation-based monitoring and evaluation (IBM) focuses on inputs, project activities, and outputs. When necessary, it motivates stakeholders at all levels to take corrective action and to learn from one another. Promoting commitment among stakeholders is the goal of this strategy (Kusek & Rist, 2004; Neubert, 2010). This highlights once more how important monitoring and evaluation (M&E) are to a project's success. Thus, in terms of the particular areas of attention, it can be concluded that the dominant strategy in project monitoring and evaluation focuses on Impact Measurement and Evaluation (IMB) and Results-Based Management (RBM). In their book "Monitoring and Evaluation of Projects and Programs," Nyonje, Ndunge, & Mulwa (2012) categorize evaluations into three types: (i) Ex-ante Evaluation, also known as Needs Assessment, which is conducted before a project starts; (ii) Summative evaluation, which seeks to determine if a fully developed project has succeeded in reaching its declared objectives; and (iii) Formative evaluation, which assesses the development of ongoing project activities. Summative assessment is a type of project evaluation that collects information on results and the related procedures, tactics, and activities that have influenced those results, according to Blank (1993).

2.4.3 Monitoring and Evaluation and Project Performance

Projects that demonstrate strong performance have the ability to maintain their operations even after the donor has withdrawn their support (Robert, 2010). Fifty-five percent of GEF initiatives received a rating, according to the GEF 2015 annual report. 52% is the permissible level for both M&E design and M&E during implementation.

It is important to acknowledge different viewpoints regarding the definition of monitoring and evaluation (M&E) and its goals when talking about the different kinds of M&E. The most prevalent viewpoints in this range are those of those who believe that M&E primarily fulfills an accountability function. The auditing, compliance, and performance management domains are all represented in this classification (Cook, 2006). In monitoring and evaluation (M&E) that is accountability-focused, there is a strong emphasis on thorough examination, and assessments are typically based on well-defined benchmarks and criteria set for various aspects of performance (Cheng, Daint, & Moore, 2007). This entails effectively overseeing financial resources, staff members, and adhering to legal and regulatory requirements in accordance with established protocols and guidelines. Any departure from the established standards is likely to result in criticism or disapproval (Naidoo, I. A., 2013). Within this particular framework, M&E is regarded as a managerial role that provides assistance, including the entirety of an institution's administration, operational systems, and culture, as highlighted by Cook (2006).

In addition to its role in ensuring accountability, Monitoring and Evaluation (M&E) also serves the objective of promoting the concept of a "learning organization" as defined by PMI (2006). This occurs at the M&E level when results are provided. It is commonly believed that businesses will become more transparent and introspective when presented

with evaluative information. However, this is not always true, as implementing the process of learning is challenging due to the intricate set of rules and management practices that need to be navigated. Evidence suggests that although it is assumed that monitoring and evaluation (M&E) should result in learning and reflection, this may not always be the case due to the intricate nature of how organizations incorporate information. This complexity challenges the causal relationship implied by traditional M&E approaches (Preskill, 2004). Kennerly and Neely (2003) assert that integrating assessment into organizations is a challenging undertaking that is influenced by a number of factors, such as bureaucratic (psychological), technical (methodological), and environmental (political) effects. Although these elements overlap, it is clear that organizational learning is difficult unless everything is correctly matched. Schwartz & Mayne (2005) assess how monitoring and evaluation (M&E) might improve learning and introspection. They point out that in this aspect, M&E is seen as a tool that helps management by improving the precision and applicability of data utilized in decision-making. There is growing interest in investigating how monitoring and evaluation (M&E) can support the growth of learning organizations in other kinds of organizations, even though the majority of research has focused on non-governmental organizations (NGOs) (Roper & Petitt, 2002; Hamer & Komenan, 2004). Gray (2009) demonstrates that evaluation can support organizational learning instead of only emphasizing accountability. The primary contention is that the purpose of monitoring and evaluation (M&E) is important since it can lead to a variety of outcomes, which is the subject of this investigation. It is noteworthy that, depending on the circumstances, Monitoring and Evaluation (M&E) has assumed different functions. M&E can be applied to promote specific behaviors or practices, hold people accountable, or aid in learning,

depending on the situation. Bamberger (2008) provides examples of this in a series on the subject. There is a great deal of diversity in this field with regard to project performance. 'Project performance' as defined by Murphy et al. (1974), Pinto & Slevin (1988), Gemuenden & Lechler (1997), and Shenhar et al. (1997) seems to be the only term that has been agreed upon.

This study evaluated the overall quality of a project, including its impact, value to beneficiaries, implementation effectiveness, efficiency, and sustainability, in order to evaluate project performance. Finding out how M&E affects project performance—as indicated by the average degree of project objective attainment—is the goal of the analysis. Quantifying the shift by comparing the input and target outcomes side by side. Here we see the intended effect of the program and its processes on the final product.

They are valuable tools, even though they might not be a stand-alone solution (Verma, 2005). The monitoring and assessment of projects comprise multiple processes that, if executed accurately, can result in the enhancement and successful implementation of future projects (Msila & Setlhako, 2013). Monitoring and assessment can facilitate the identification of issues and their underlying causes, as well as propose potential remedies (Shapiro, 2001). M&E can impact project performance due to insufficient information available on this matter (Singh & Nyandemo, 2004). What specific activities are included in the process of monitoring and evaluation? UNDP (2009) states that the process of monitoring and evaluation encompasses several related activities. Among them, foremost among them is the creation of an all-encompassing M&E strategy that will direct the whole endeavor. Incorporating monitoring and evaluation into project planning is essential, says

Shapiro (2001). It is essential to start collecting data on the project's performance in accordance to the goals right away.

2.4.4 Planning and project performance

Effective planning for monitoring and evaluation is essential for enhancing the effectiveness of government projects, according to a 2007 study carried out in Washington by Mackay and the World Bank. Dairy processing projects that are mostly owned by investors and cooperative groupings of dairy farmers were the main focus of this investigation. The study aimed to enhance the efficiency of government dairy processing (NKCC) by implementing monitoring and evaluation strategies for processing plant projects. The study utilized descriptive statistics and found that most respondents reported a deficiency in monitoring and evaluation methods within the projects they were involved in. However, a study on project performance at Aljouf University's Malaysia College of Computer Sciences and Information by Muhammad et al. (2012) discovered that project management gives an organization control tools that improve its capacity to organize, carry out, and oversee project activities. The study's goal was to determine the improvements in project performance that were made during the planning, execution, and monitoring stages. To determine the usefulness of each step in the project performance management process, variable models are used. We looked at data related to different projects and models related to project planning, execution, control, and performance proposal in order to achieve this aim. The findings showed that project performance was positively impacted by project planning procedures. Furthermore, a study by Singh, Chandurkar, and Dutt (2017) highlighted the need of monitoring and assessment in guiding development initiatives. This study sought to determine how monitoring and evaluation affected development initiatives.

According to the study, management should actively engage in the monitoring and assessment process and provide all-encompassing support. They would then be able to make well-informed decisions supported by reliable data.

Based on a large amount of research on funding initiatives, African nations like Kenya have three main policy options to address the financial needs of secondary education and all other levels of education (LeBel, 2000; Lewin & Caillods, 2001; UNESCO, 2006). Initially, a nation must contemplate whether to uphold and maintain the fundamental or current financial situation. This involves preserving current institutional structures and distributing fixed levels of educational resources to a continuously expanding number of secondary school-age students. Implementing such an option may not be viable in the long run, as it will diminish the long-term efficacy of the education acquired. In any case, this decision not only impedes the achievement of a nation's social and political goals, but it is also opposed by educational planners.

2.4.5 Training and Performance

Once a project implementation has been formed, it is imperative to give training and capacity building for the monitoring and evaluation team on reporting, regardless of the individual team members' degree of competence. Wysocki and McGary (2003) claim that this approach promotes team cohesion and enhances understanding of the project's objectives and the necessity of frequent updates. Generally speaking, everyone involved in project implementation—including partners—should be trained and participated in the monitoring and evaluation (M&E) process (Acharya et al., 2006). The training for implementers in monitoring and evaluation (M&E) is intentionally designed to be interactive. This approach ensures that the individuals responsible for implementing and

utilizing the system are well-versed on its design, purpose, and focal points, in addition to the most effective ways to utilize the monitoring and evaluation tools.

Conducting M&E resource and capacity assessments before project development can help identify early gaps in M&E capabilities and the resources required for M&E training. Training then requires evaluations, which can be a more planned process or informal, depending on staff performance and experience (Pfohl & Jacob, 2009). The size and complexity of the project being completed determine the best line of action. It is essential to make sure that the training plan is especially created to fill in any staff competence shortages for larger projects with more individuals. This is because there won't be many opportunities to speak with each employee one-on-one. A training and capacity-building strategy for monitoring and evaluation (M&E) must be developed when the training needs have been identified. Along with identifying the people who will receive the training, this plan should include the precise subjects that will be covered (Alcock, 2009). It is important to recognize that not every employee and member of management needs training on every topic at the same time.

Furthermore, frequent training sessions will be held on a regular basis. These sessions will cover in-service training throughout the project's duration as well as basic training for management and employees at the beginning of the M&E system. These training courses aim to increase participants' performance by expanding their knowledge and skill sets. Gray (2009). Project performance is undoubtedly impacted by this issue. The titles covered in M&E training are essential for organizing the entire process of gathering data. The key elements are the monitoring and assessment system that will be put into place, the performance metrics that are required for project evaluation, the methods and resources for

gathering data, and the data analysis (UNDP, 2006). The training material significantly shifts the implementation team's attention to gathering M&E data, improving their understanding of the project's success at any given time and enabling constructive impact. The goal of Al Shaiba's (2011) study, "Competency and Role Path from Being Project Manager, to Program Manager, to Portfolio Manager," was to examine the key duties and necessary competences related to project, program, and portfolio management positions. The study also sought to determine how these roles relate to one another in terms of career advancement. A thorough analysis of the body of research in the fields of project, program, and portfolio management was carried out in order to accomplish this goal. The conceptual framework was developed based on this analysis and subsequently verified through empirical study.

To explore the subject, the study used a qualitative research methodology, namely a case study technique. Semi-structured interviews with carefully selected participants from a government agency in charge of transportation infrastructure in Dubai, United Arab Emirates, were used to gather data. Throughout the study, the organization will be referred to as AB in order to maintain confidentiality. An opportunity found within AB, the company where the researcher worked, served as the basis for the research. The study "Competencies of an Effective Project Manager" was carried out by Narh (2013). The different elements of these leadership proficiencies may be correlated, according to this study. Information, communication, scope, scheduling, risk, health and safety, value addition, procurement management, and the iron triangle of cost, time, and quality are all examples of technical skills listed in the Project Management Book of Knowledge (PMBok). To get information from a sizable sample of project managers, this study used

the interviewing methodology. The study compiled the results of various studies to determine the fundamental competencies of an effective project manager. Additionally, it gave a succinct explanation of each competency's importance within the framework of project management.

The 2011 research by Baidoo et al., "Key competencies for global project managers: a cross-cultural study of the UK and India," examined the variations in project management abilities between countries using Hofstede's dimensions of national culture. They looked at job ads in the UK and India to find out what basic soft skills are required of project managers all over the world.

The results imply that the soft skills of project managers that businesses require while implementing information technologies are influenced by the national culture. Furthermore, the results show that there is no difference between the two nations in terms of personal characteristics and requirements for project management certification. In contrast to the UK, India requires a greater level of education, while the UK places more emphasis on the necessity of having better teamwork skills. "Project Management Competencies: Survey of Perspectives from Project Managers in Southeast Queens Land," a study by Lei and Skitmore (2004), sought to document the real-world experiences and abilities of project managers who are currently employed in the industry. In addition to any other skills and issues that are pertinent in the twenty-first century, the study aimed to determine the fundamental project management abilities that a project manager has to have. It has been established that the most important skills needed for project management are competent decision-making, successful project goal achievement, and effective communication. The biggest discrepancy is in the area of communication, where the

necessary abilities and the capabilities already possessed differ significantly. Industrial relations, workplace health and safety, environmental concerns, flexibility, innovation, and adaptability, as well as stakeholder management, coaching, knowledge transfer, client-related skills, networking, and business skills, are the key competencies that a project manager should have in the near future.

The purpose of Al Kazaz's 2016 research, titled "The Impact of Managers' Leadership Skills on Construction Project Performance in Dubai," was to examine how capable project managers were in directing Dubai-based construction projects to successful completion. Using descriptive and exploratory approaches, this study sought to understand the actual experiences of industry professionals. In order to gain a better understanding of how employees at two prominent construction businesses perceive leadership abilities, we conducted a poll. Four senior project managers from the Dubai construction industry were interviewed using a semi-structured, open-ended procedure. The purpose of the interview was to gain a better understanding of the influence of leadership and to identify the characteristics of effective leaders.

The findings demonstrated that leadership qualities play a pivotal role in distinguishing between effective leaders and managers. Having a strong understanding and appreciation of different cultures is essential for everyone working in the construction sector in Dubai, as it greatly contributes to achieving success. Furthermore, effective leadership is closely intertwined with the lives of individuals and the caliber of relationships fostered by the leader. Essentially, there are varying viewpoints on what constitutes great leadership, but

the common ground across these perspectives is that being people-oriented and adaptable to the surrounding environment is crucial for achieving success.

2.4.6 Reporting and Project Performance

Project monitoring and evaluation (M&E) reporting needs improvement, according to multiple studies. In order to augment the information needed for monitoring and evaluating project performance, there needs to be enough data gathering. Additional steps are required to enhance interventions and monitor subsequent initiatives. For the sake of future reference and to aid in project management and execution, reports on project accomplishments should be published and shared with stakeholders. A logframe displays the current status of the project's monitoring and evaluation (M&E) based on its logical structure. It helps to turn monitoring and evaluation operations into factual knowledge by providing a guiding tool. The project team also makes use of the reporting of findings to inform their planning and action, as well as to offer suggestions for future attempts.

The logframe is a matrix that provides a clear representation of the expected problem to be solved, the targets to be achieved, and the indicators used to measure its progress. It is crucial to comprehend the distinctions between project inputs, outputs, effects, and impacts because the indicators of the M&E system are founded on this hierarchy. Three represents the primary steps and elements of a standard 4x5 logframe matrix. You should be aware that several development industry groups specify various sorts of Logframe objectives using distinct terminology and formats. The majority of the major development organizations engaged in this process utilize a specific language, although Rugh (2008) has offered a useful resource for comprehending their language. In the early 1960s, the logical framework technique was created to meet the need for effective planning and control of

development operations (Pradhan, 2011). Although USAID laid out the groundwork for the notion in the late 1960s, Norad added significant weight to it in the '90s (Pradhan, 2011). According to Milika (2011), by constructing a cause-and-effect relationship between inputs, actions, outputs, reasons, and a desired objective (vertical logic), a logical framework enables the study of a current situation. It involves defining the underlying assumptions of the problem at hand, identifying potential obstacles to achieving goals and rationale, and establishing a strategy for attaining objectives and rationale. The analysis also considers strengths, weaknesses, opportunities, and threats. In a study conducted by Milika (2011), it was shown that LFA facilitates the sharing of information and effective communication among decision makers, managers, and other project stakeholders. Additionally, it provides standardized methodologies for data collecting and analysis, benefiting management and administration. Milika (2011) argues that LFA guarantees methodological consistency when replacing authorized personnel for challenging tasks. Since it is the initial step in planning and carrying out the mission, the logical framework is vital, say Nyandemo (2010) and Barasa (2014). According to Nyandemo, putting this strategy into practice will allow the US to strategically plan programs by integrating a methodical framework that includes specific, short-term objectives, measurable indicators, and targeted business analysis. This was a significant advancement for Ghana in terms of task implementation.

Leuzzi (2013) states that the components of an LFA matrix are derived from dreams, motivations, and It is vital to categorize mission endeavors within the logical framework matrix. An integral part of every logical framework is the logframe. Projects and programs are planned, executed, and evaluated using the logframe as part of an all-inclusive action

plan. It is well regarded for conducting reasonable assessments during project planning, monitoring progress, and assessing task outcomes throughout project implementation (Kikwatha, 2018). A number of well-known international funders, such as the European Commission and the Asian Development Bank, mandate that projects they support follow an LFA (Wageningen, 2010). The following are some advantages of using a log frame:

The application can be used to evaluate the applicability and importance of assignment concepts and ideas in their early stages. It offers a systematic and cohesive examination of the interrelated components that make up a task with a clear structure. It also creates links between the assignments and outside influences. It also acts as the primary reference point for creating customized work schedules and plans. The implementation phase in Wageningen (2010) involves the use of references, budgets, and other documents. These act as markers to gauge the venture's success and advancement. They also create a uniform approach and language for governments, donor organizations, contractors, and customers.

2.4.7 Managerial Support roles relationship with monitoring and evaluation practices and project performance

Management support is crucial for monitoring and assessment. Monitoring and assessment are rational and convincing, thus people and institutions are unlikely to embrace them spontaneously. Kusek and Rist (2004) and White (2012) both highlight how crucial management support is for project monitoring and evaluation. The project M & E team accepts these comments as a performance incentive since they promote monitoring and evaluation at many levels. According to Jones and George (2008), motivating monitoring and assessment personnel helps them associate their actions with a specific goal.

Additionally, M&E players' motivation increases their effort, perseverance, and accomplishment of organizational goals (Hwang and Lim, 2013).

Project results and organizational learning are enhanced when management supports a monitoring and evaluation framework. Senior management's active participation in project monitoring and assessment shows a commitment to the plan, which affects buy-in and implementation, according to Bester (2013). Using data from 125 education project managers in Pakistan, Long and Fei (2015) performed a multiple regression analysis to determine if management support moderates the link between transformational leadership and project performance. The findings suggest that understanding transformational leadership and top management support can increase project performance. In contrast, Mayne (2007) suggests that organizational leaders can demonstrate commitment by persisting, setting reasonable but challenging staff goals, communicating monitoring and evaluation results internally and externally, and securing or advocating for necessary financial resources, skills, and equipment.

Relationships within the monitoring and evaluation team may be strengthened by strong managerial support. Numerous studies have shown that empowered monitoring and evaluation teams enhance project success. In a qualitative investigation, Abdul-Rahman, Wang, and Muhammad (2011) discovered that management factors impacted the efficacy of M&E teams. Improvements included vertical communication, incentives, teamwork, and a good work atmosphere. In Ghana, Martey, Al-Hassan, and Kuwonu (2012) identified key determinants determining dairy project performance. The study found that management team structural capacity for monitoring and assessment considerably

improves project performance. The results are consistent with a research on the support and performance of education project management by Georgiera and Allan (2008). The examined literature shows that supporting monitoring and evaluation improves project performance. Research on these variables rarely focuses on dairy processing projects. Management support and dairy processing performance in Kiambu County, Kenya, are understudied.

Top management's monitoring and evaluation of operations considerably impacts their performance, according to research. Hassan (2013) noted that Bangladesh Shrimp-Culture programs invested much in a monitoring and evaluation system to gather important data. Because there were no links between monitoring and evaluation and project management, management did not use this information for decision-making. Research shows that top management commitment to monitoring and evaluation, especially from an M&E champion, improves project performance (Weber and Norton, 2014). The literature examines management assistance as a cross-disciplinary predictor of project effectiveness. The study looked at how managerial support impacts the performance and monitoring of dairy processing projects in Kiambu County, Kenya.

Project performance is frequently investigated in relation to management help. Top management can show their faith in M&E operations by personally implementing and openly endorsing the outcomes. Personal involvement of top management in evaluation methods can increase resource delegation and system success pressure, encouraging sustainability. Ling, Low, Wang, and Lim (2009) assessed 47 Singapore public project monitoring and evaluation performance. The study found that senior management support for monitoring and evaluation apps best predicted success. The monitoring and assessment

performance of management support was not statistically tested in Ling, Low, Wang, and Lim's descriptive study.

Inductive and deductive study methods give more insights than either alone. Understanding of the study variables is enhanced by the findings' significance. In order to address research problems and evaluate hypotheses for applicability, the current study employed both approaches.

The study gained greater insight by seeing management support as a predictor of project success and a component that affects dairy processing monitoring and evaluation.

Related variables have generated diverse findings in research. Wanjala, Omondi, and Njehia (2014) found mixed results in a quantitative analysis on milk production predictors in western Kenyan dairy projects. When compared to other internal factors including dairy feeding methods, resource availability, and milk production technology, management support had little effect on milk output, according to an inferential analysis of survey questionnaire quantitative data. However, Kariungi's longitudinal survey (2014, p. 115) shows. An M&E team member voiced unhappiness with IFAD-supported Western Kenyan dairy cooperatives in an in-depth interview. "Management provides minimal recognition, support, and resources." Most survey respondents reported a low income with no incentive increases, which demotivated teamwork and hampered monitoring and evaluation.

In another Moroccan study, Peterson and Fischer (2001) found competitive salaries and perks in government-supported dairy enterprises. Dairy initiatives performed better with well-resourced monitoring and evaluation teams, including workers, fuel, and survey materials like computers and paper. The research related dairy project success to management's M & E team's continuing assistance. The project director supports and

acknowledges monitoring and evaluation units in Yemeni public initiatives (Pinto, 2000). Incentives including shared car access, external M&E training, and performance-based compensation improved M&E teams' work quality, according to the study. The present study sought conclusive proof due to variations in similar variables across research. Management support and project performance have been studied across disciplines and situations with conflicting results. Similar studies have examined management support and monitoring and assessment performance. According to research, manager support affects project performance (McComb, 2008; Naranjo-Gil, 2009). However, little research has examined management support as a moderating element affecting project performance monitoring and assessment, especially in developing countries' dairy processing sectors. This suggests we should investigate how management support influences monitoring and evaluation procedures and dairy processing project success. It will enhance our knowledge of this field.

2.5 Research Gap

Numerous insightful research on project success have been carried out, and most of them show that monitoring and assessment play a crucial role in project success. However, no prior research has focused on how monitoring and assessment affect the efficiency of dairy processing operations in Kenya, which is the focus of the present investigation.

The performance of dairy projects that the researcher wants to investigate is greatly impacted by monitoring and evaluation procedures, which are still thought of as a linear process in agricultural research and development. According to Anandajayasekeram and Gebremedhin (2009), the value chain project approach also facilitates understanding of the complex, multidimensional, and open sociotechnical value chain systems. Value chains are

continuously shaped to accommodate monitoring and assessment procedures by a variety of actors. The research methodologies employed in this context, however, are grounded in a linear model that allows for the methodical planning and management of change because it is based on the idea of a single, completely knowable reality.

Existing studies on project performance and monitoring and evaluation (M&E) practices have not fully explored the direct link between M&E practices, managerial support, and the performance of dairy processing projects. For instance, Kamau & Mohamed (2018) focused on M&E function effectiveness but did not address the role of managerial support in enhancing project performance. Similarly, Staal et al. (2008) examined dairy production in Ethiopia and Kenya but did not analyze how M&E contributes to dairy project success. This highlights a **conceptual gap** in understanding the interplay between M&E, managerial support, and project performance within the dairy processing sector.

From a methodological perspective, existing studies have employed broad research strategies that do not provide an in-depth analysis of project-specific M&E practices. Kamau & Mohamed (2018) and Staal et al. (2008) utilized generalized research approaches that may not adequately capture the unique M&E challenges in dairy processing. Additionally, Munyiri & Muchelule (2018) used a sample size of 145 respondents, focusing exclusively on water projects. This makes it difficult to generalize their findings to dairy processing projects, as different sectors have distinct M&E frameworks and implementation challenges.

There is also a contextual gap, as previous studies have not specifically focused on Kiambu County and its unique challenges in dairy processing. Kamau & Mohamed (2018) and Staal

et al. (2008) conducted broader studies that did not analyze regional-specific factors influencing dairy project performance. Munyiri & Muchelule (2018) focused on water projects in Migori County, making their findings less applicable to the dairy sector in Kiambu County. Since dairy processing projects face unique logistical, environmental, and managerial challenges, a localized study is necessary to provide actionable insights.

Furthermore, theoretical gaps exist in the current body of knowledge. While M&E is widely recognized as a critical driver of project success, previous studies have not systematically analyzed its relationship with dairy processing project performance using a well-defined theoretical framework. The absence of a guiding theory such as Program Theory or Stakeholder Engagement Theory limits the ability to conceptualize how M&E practices contribute to project outcomes. By integrating these theories, this study aims to provide a structured understanding of how M&E practices influence the performance of dairy processing projects.

This study seeks to address the identified knowledge gaps by examining the role of M&E planning, training, and reporting in dairy processing project performance in Kiambu County. Unlike previous studies that focus solely on M&E function effectiveness, this study integrates managerial support as a moderating variable, which has been largely overlooked. Additionally, a structured methodological approach will be employed, with a well-defined sample size and research instruments tailored specifically to the dairy sector. Furthermore, the study will be anchored in Program Theory and Stakeholder Engagement Theory to provide a theoretical basis for understanding how M&E practices influence project outcomes. By addressing these conceptual, methodological, contextual, and

theoretical gaps, this study will contribute to the growing body of knowledge on project performance within the dairy processing sector.

Table 2.1: Summary of Research Gap

Authors	Objectives	Methods	Findings	Research gaps	Departure of the current study
Kamau & Mohamed 2018	M&E function effectiveness in attaining project success in Kenya	Generalized research approach	-	Project performance is influenced by the hypothesized M&E team's strength, methods, and politics.	The researcher focused on M&E function
Staal and et al (ILRI), 2008	Development of dairy products for those with limited resources: An analysis of Ethiopian and Kenyan dairy production	It's a broad research strategy.	The performance of dairy development is not significantly affected by improvements in the dairy producing sector.	The dairy value chain and its connections to demand pull have never been the subject of any research.	The study did not evaluate the impact of M&E on dairy processing project performance.
Munyiri & Muchelule 2018	Impact of Monitoring and Assessment on Migori County Water Project Performance	A total of 145 respondents were chosen as the sample size.	The performance of water projects is greatly impacted by community involvement, communication, and expertise.	It solely covered the components of water project performance related to research and development.	Other than studying implementation aspects alone, the researcher wants to evaluate in terms of a continuous project performance strategy.

2.7 Conceptual Framework

According to Miles and Huberman (1994), a conceptual framework is a graphic or written depiction that clarifies the main topics of research, such as crucial elements, ideas, or variables, as well as the expected connections between them. The phrase is used in the research in a broad sense, including the real beliefs and opinions one has about the events being studied, whether or not they are recorded. This could also be called the conceptual context or theoretical framework for the study. According to Robson (2002), your study's conceptual framework is the set of ideas, presumptions, expectations, beliefs, and theories that support and direct your investigation and are an essential component of your design.

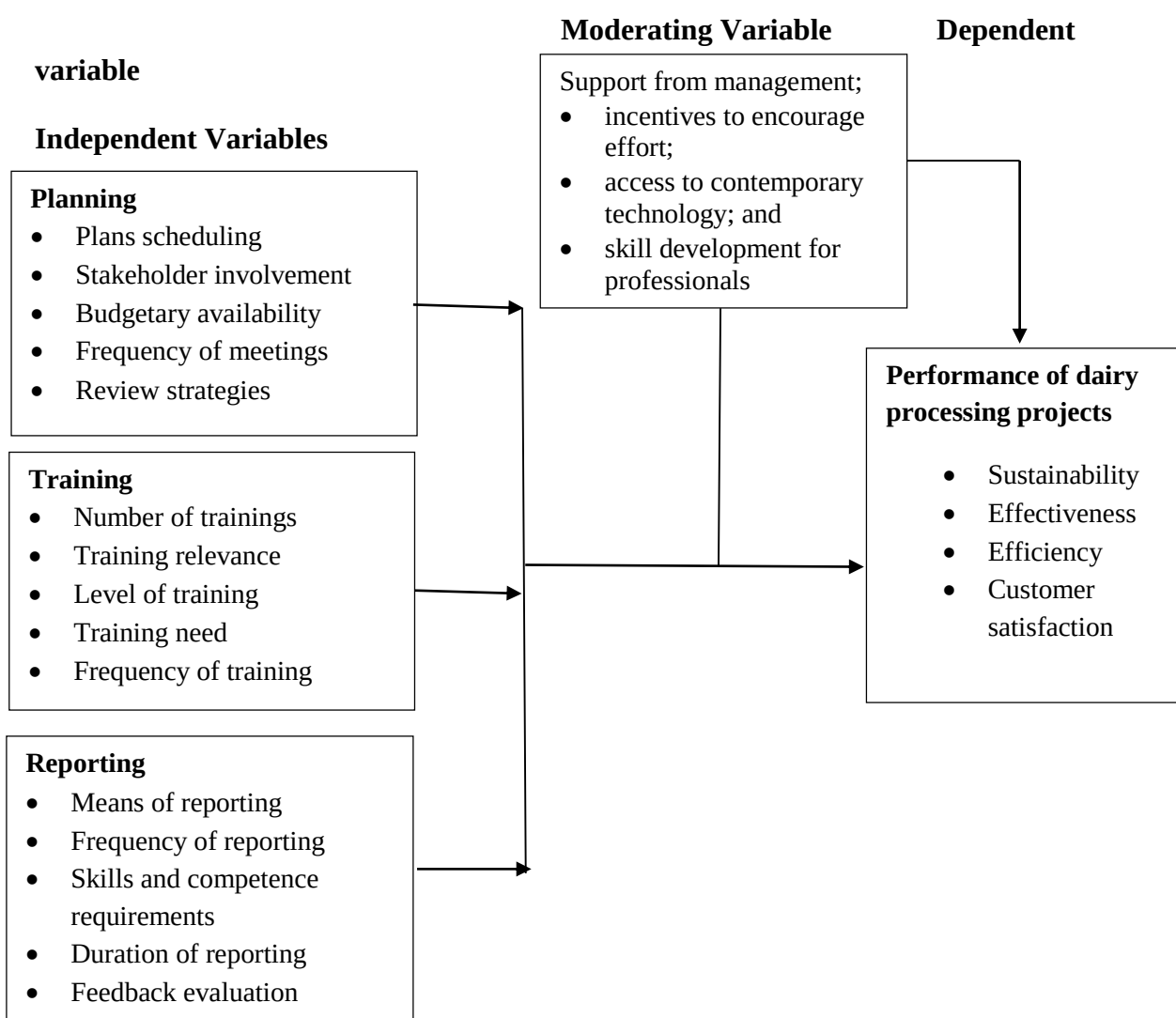


Figure 2. 1: Conceptual Framework Diagram

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.0 Introduction

In Chapter 3, we outline the research strategy that was used for this study. The paper details the study methodology, population of interest, sample size, sampling process, research instruments, reliability and validity of those instruments, and methods for collecting and analyzing data.

3.1 Research Philosophy

Research philosophy refers to the set of beliefs and assumptions that guide the research process, influencing how data is collected, analyzed, and interpreted. It provides the foundational framework for understanding the nature of reality (ontology), the relationship between the researcher and knowledge (epistemology), and the methods used to acquire knowledge (methodology). This study on **Monitoring and Evaluation (M&E) Practices, Management Support, and Performance of Dairy Processing Projects in Kiambu County** is guided by **the pragmatism research philosophy** due to its emphasis on practical problem-solving and the use of mixed research methods.

Pragmatism is particularly suitable for this study because it acknowledges that no single research approach can comprehensively address complex real-world problems. Given that project performance in the dairy processing sector is influenced by both quantitative metrics (such as efficiency and productivity) and qualitative factors (such as managerial support and stakeholder engagement), pragmatism allows the integration of both **positivist** and **interpretivist** perspectives. This means that while structured surveys and statistical

analysis will be used to measure project performance objectively, interviews and qualitative insights will help explore managerial support and stakeholder involvement.

By adopting a **pragmatic approach**, this study ensures that the research is both relevant and applicable to real-world challenges in dairy processing projects. It allows flexibility in selecting research methods that best suit the study objectives, ensuring a comprehensive understanding of how M&E practices and management support contribute to project performance. This philosophy aligns well with the need to generate practical recommendations for policymakers, project managers, and stakeholders in the dairy industry.

3.2 Research Design

This study employed an explanatory research design. Scholars opt for this particular design due to its capacity to discern causal relationships between variables that have been conceptualized in order to tackle the research problem, all while preventing any manipulation of said variables (Saldana, 2011). Predicated on the examination of hypotheses concerning the interrelationships of variables, the explanatory design is generally quantitative in nature (Zohrabi, 2013). According to Gaurav and Kothari (2019), the goal of explanatory research is to conceive, elaborate, test, and explain why certain phenomena occur.

Additionally, Dawson (2019) believe that an explanatory design is appropriate for establishing a causal relationship between variables, which is why it will be used in this study. The design was utilized to ascertain whether there is any causal relationship between the factors or variables relevant to the study issue. Quantitative analysis of data was performed using descriptive and inferential statistics. The data was analyzed to

determine probable explanations for specific relationships between variables and the models generated by those correlations.

3.3 Target Population

According to Mugenda and Mugenda (2013), a population is a comprehensive group of people, things, or events that have a common observable trait. The study objectives are taken into consideration when determining the target population. The unit being sampled, the geographic location, and the population's temporal bounds must all be precisely specified (Neuman, 2009). 36 project leads, 40 monitoring officers, 34 project engineers, 54 customers, and 108 suppliers are among the targeted beneficiaries, as illustrated in the accompanying table.

Table 3.1: Target Population

Category	Population
Project officers	36
Monitoring officer	40
Project engineers	34
Suppliers	108
Distributors	54
Total	272

Source: Kiambu County human resource, (2022)

3.4 Sampling and Sampling Procedure

The process of selecting a subset of components for study from a broader population is known as sampling (Balnaves & Caputi, 2011). According to Kothari (2014), a sample frame is an all-inclusive representation of the target population that includes every possible component that might be connected to a sample. As long as it allows for reliable data

processing and allows testing for the significance of differences between estimates, According to Sekaran (2010), half of the population of interest is a sufficient sample size. The primary goal of this study's sampling approach is to choose an objective and representative sample in order to enhance the results' validity and reliability. To calculate the sample size, the study used stratified random sampling techniques. Stratified random sampling was used to divide the respondents into five strata. Project officials, monitoring officers, project engineers (PEs), suppliers, and customers were among these strata.

Stratified random sampling was chosen to ensure that all key stakeholder groups involved in dairy processing projects in Kiambu County were adequately represented, it also enhances the accuracy and representativeness of the sample by dividing the target population into distinct strata before selecting respondents proportionally from each group. This technique minimizes sampling bias and ensures that each subgroup within the population has an equal chance of being included in the study.

According to Orodho (2009), stratified random sampling is the best approach since it guarantees that every respondent has an equal chance of being chosen for the research. This approach is objective and makes it easier to generalize the results. The sample size was defined and computed using Yamane (1967), as cited in Sileyew (2019). This formula is favored because it is easy to utilize in its matrix tables, which are useful for scientific studies involving huge populations. The sample size was calculated from the population within each stratum using the Yamane (1967) formula. A 95% standard error was taken into account while calculating the sample size for the responders. The Yamane formula is still used in many investigations, and it was taken into consideration while determining the sample size for this investigation.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{272}{1 + 272(0.05)^2}$$

$$= 162$$

Where:

n = Sample size

N = Population size

e = the error of Sampling

The sample size will consist of 162 respondents in total, including project officers, monitoring officers, project engineers, suppliers, and customers.

Each respondent within the strata was randomly selected, allowing for an unbiased representation of perspectives regarding monitoring and evaluation practices, management support, and project performance. The stratified random sampling approach ensured that data collected reflected the experiences and contributions of all key players in dairy processing projects, making the findings more generalizable and reliable.

Table 3. 2: Sample Size

Category	Population	Sample
Project officers	36	21
Monitoring officers	40	24
Project engineers	34	20
Suppliers	108	64
Distributors	54	33
Total	272	162

Source: Researcher, (2022)

3.5 Data Collection Methods

According to Creswell (2014), gathering information from the chosen research study participants is what data collecting is all about. Data collection for this study was conducted using both primary and secondary sources to ensure comprehensive and reliable findings. Primary data was gathered using structured questionnaires, while secondary data was obtained from published articles, reports, and other relevant literature related to monitoring and evaluation practices, management support, and dairy processing project performance. The questionnaire was the primary instrument for collecting data and was designed to capture information relevant to the study objectives. It was divided into several sections to address different aspects of the research. The first section focused on demographic information of the respondents, while subsequent sections covered monitoring and evaluation practices, management support, and project performance. The questionnaire comprised both closed-ended and open-ended questions, ensuring a balance between structured responses and the flexibility to provide additional insights.

To ensure the validity of the data collection instrument, the questionnaire was reviewed by experts in project management and research methodology to confirm that the questions aligned with the study objectives. A pilot study was conducted on a small subset of respondents from the target population to refine the questions, improve clarity, and eliminate ambiguities. The reliability of the instrument was tested using Cronbach's Alpha coefficient, ensuring that the questionnaire yielded consistent results across repeated trials. By employing both primary and secondary data collection methods, the study ensured a robust dataset that provided both empirical and contextual insights into the impact of monitoring and evaluation practices on dairy processing projects in Kiambu County.

3.6 Data Collection Procedure

The data collection process was conducted systematically to ensure compliance with ethical and regulatory requirements while maximizing response rates.

Before data collection commenced, the researcher sought and obtained the necessary research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). The permit allowed the researcher to conduct the study in Kiambu County, ensuring compliance with national research guidelines. Additionally, permission was obtained from relevant county authorities and institutional management where necessary.

A self-administered questionnaire was used as the primary tool for data collection. The researcher personally delivered the questionnaires to the respondents at their workplaces.

To ensure a structured approach, the following steps were followed:

1. Introduction and Briefing – Each respondent was given a brief explanation of the study's purpose, the importance of their participation, and how the data would be used.
2. Informed Consent – Respondents were required to provide informed consent before participating in the study. They were assured of the confidentiality of their responses and their right to withdraw at any point without consequences.
3. Questionnaire Distribution – The researcher handed out questionnaires to the targeted respondents based on the stratified sampling technique. Each questionnaire was assigned a unique code to ensure easy tracking.
4. Follow-Up and Collection – A follow-up mechanism was put in place to remind respondents to complete the questionnaires. The researcher personally collected the completed questionnaires to minimize non-response rates and ensure data integrity.

3.7 Ethical Considerations

In line with ethical research practices, the study adhered to principles of voluntary participation, confidentiality, and anonymity. The coded approach used in questionnaire distribution ensured that data remained anonymous while allowing for tracking of responses. Additionally, respondents were assured that the data collected would be used strictly for academic purposes.

By implementing these procedures, the study ensured a structured and ethical approach to data collection, leading to reliable and valid findings.

3.8 Pilot Test

A pilot study was conducted to pre-test the research instrument before the main data collection process. Pilot testing is an essential step in research as it helps to identify potential weaknesses in the questionnaire, ensure clarity of questions, and refine the research methodology (Singleton & Straits, 2015). According to Kombo and Tromp (2006), a pilot study allows the researcher to become familiar with the research process and administrative procedures.

The pilot test assessed various factors, including:

- The clarity and relevance of the questionnaire items.
- The appropriateness of the question wording and structure.
- The estimated time required to complete the questionnaire.
- The effectiveness of the sampling method.
- The presence of any researcher bias.

- The verification of expected responses and their alignment with the intended research measurements (Rukwaru, 2007; Nyandemo, 2010; Kothari, 2008).

Schindler (2022) recommends that a pilot study should use approximately 10% of the total sample size. Given that the sample size for the main study was 162, a correct 10% sample for pilot testing should be approximately 16 respondents. However, the study initially planned for a pilot sample size of 27 respondents, which constituted about 16.67% of the total study sample. This slightly higher proportion was used to ensure comprehensive feedback on the questionnaire's effectiveness.

The pilot study was conducted among respondents in Nairobi County, who share similar characteristics with the study area, Kiambu County. This ensured that the results of the pilot test were relevant and applicable to the main study population. The feedback obtained from the pilot study was used to refine the questionnaire, enhancing its validity and reliability before proceeding with full-scale data collection.

3.9 Testing for Validity and Reliability

3.9.1 Validity of Instrument

This study assessed the validity of research instruments through content, face, and construct validity to ensure that the tools effectively captured the required data and aligned with the research objectives.

Content validity was evaluated to determine whether the study instruments adequately covered all aspects of the research objectives. According to Gaurav and Kothari (2019), content validity ensures that the items in the questionnaire comprehensively address the research variables. To achieve this, expert opinions from supervisors were sought to review the questionnaire's coverage of key concepts, ensuring that it was relevant and

comprehensive in assessing the monitoring and evaluation (M&E) impact on dairy processing projects in Kiambu County.

Face validity examines whether the questionnaire appears appropriate and relevant for the study's objectives. It involves assessing the instrument's readability, clarity, format consistency, and feasibility. A discussion was conducted with supervisors and research experts to evaluate the draft data collection instruments. They reviewed the questionnaire's wording, contextual relevance, translations, length, formatting, and logical flow. Based on their feedback, necessary modifications were made to enhance the questionnaire's clarity and usability before administering it to respondents.

Construct validity measures how well a research instrument accurately captures the theoretical constructs it intends to assess. It ensures that the questionnaire effectively quantifies the abstract concepts under investigation. This study defined key research variables and structured the questionnaire based on an extensive review of literature to ensure that each item aligned with theoretical expectations and practical realities. By establishing clear operational definitions, the study ensured that the instrument could accurately capture relationships between variables and contribute to meaningful data collection.

Through these validation processes, the study ensured that the questionnaire was well-structured, comprehensive, and capable of generating reliable data for analyzing the impact of M&E on dairy processing project performance in Kiambu County.

3.9.2 Reliability of Instrument

Reliability refers to the consistency of a measurement instrument in producing stable and uniform results when applied under similar conditions (Cronbach, 1951). It ensures that an instrument is free from random errors and can be depended upon for repeated measurements.

In this study, the researcher employed **Cronbach's alpha (α)** to assess internal consistency. Cronbach's alpha is a widely used metric for evaluating how well a set of test items measure a single underlying construct. The accepted threshold for reliability is **0.7**, meaning that an instrument with a Cronbach's alpha of **0.7 or higher** is considered reliable (Tavakol & Dennick, 2011).

To determine the reliability of the questionnaire, a pilot test was conducted with a sample of **27 respondents** from Nairobi County, who shared similar characteristics with the main study's target population. The reliability index for the instruments was computed and compared against the **0.7 benchmark** to confirm internal consistency. The Cronbach's alpha values obtained for various study variables were as follows:

Table 3.3 Cronbach's alpha values

<i>Variable</i>	<i>Cronbach's Alpha (α)</i>
<i>Project performance on dairy processing</i>	0.812
<i>Monitoring and evaluation planning</i>	0.796
<i>Monitoring & evaluation on training</i>	0.785
<i>Management Support</i>	0.803

Since all the reliability indices exceeded the **0.7 threshold**, the instrument was deemed **reliable** for data collection. These results indicate that the questionnaire items consistently measured their intended constructs, ensuring dependability in data collection and analysis.

3.9.3 Assumptions of Multiple Regression Model (Diagnostic Tests)

Before performing multiple regression analysis, diagnostic tests were conducted to ensure the validity of the model. The study tested for key assumptions, including multicollinearity, normality, linearity, homoscedasticity, and independence of residuals. These tests were necessary to confirm that the selected model was suitable for addressing the research objectives.

Multicollinearity was assessed using Variance Inflation Factor (VIF) and Tolerance values, with all predictor variables having VIF values below 10 and tolerance values above 0.3, indicating no multicollinearity concerns. Normality was verified using the Shapiro-Wilk and Kolmogorov-Smirnov tests, which showed p-values above 0.05, confirming that the residuals were normally distributed. A Q-Q plot further supported this conclusion.

Linearity was examined using scatter plots and the Ramsey RESET test, which confirmed a linear relationship between the independent and dependent variables. Homoscedasticity was tested through the Breusch-Pagan test, where a p-value of 0.187 indicated that residual variance was constant. Additionally, residual plots displayed an even distribution, confirming no heteroscedasticity.

Finally, the independence of residuals was confirmed using the Durbin-Watson (DW) test, which yielded a value of 1.89, indicating no autocorrelation. Since all assumptions were met, the regression model was deemed appropriate, ensuring the reliability and accuracy of the study's findings.

3.10 Data Analysis and Presentation

To enable insightful analysis, raw data is methodically organized and categorized in data analysis. This is achieved through the computation of particular indices or metrics and the identification of relational patterns within the data set (Harris et al., 2019). The researcher must clean, encode, and interpret the data in order to do this. A Statistical Package for the Social Sciences (SPSS) will be used to code, enter, and analyze quantitative data from closed-ended questions. While inferential statistics, like correlation analysis, were used to ascertain the relationships between independent and dependent variables, descriptive statistics, such as percentages, means, frequency distributions, and standard deviations, were computed to describe the variables of interest.

This study employed both descriptive and inferential data analysis methods. Marvasti (2018) asserts that the initial phase of data analysis involves the description or summarization of data through descriptive statistics. Data was modified, encoded, categorized, and synthesized into classifications. The data was encoded as follows to make statistical analysis easier using the Statistical Package for Social Sciences (SPSS) version 26: Data collection and descriptive data analysis started at the same time. Tables, pie charts, and bar graphs will be used to display the descriptive data that was analyzed utilizing frequencies and central tendencies.

Pajo (2022) states that inferential statistics are utilized when a researcher aims to draw conclusions about a population based on data obtained from a small sample of that community. Researchers analyze a sample to infer conclusions about the broader

population from which it was derived. Consequently, inferential statistics entails drawing generalizations about broader contexts or unexamined entire populations.

Linear regression analysis determines the impact of a single independent variable on the dependent variable, whereas hierarchical regression analysis examines the strength, direction, and significance of the relationship between the dependent variable and multiple independent variables (Gupta & Gupta, 2007). In order to evaluate all three assumptions, the researcher employed analysis of variance (ANOVA) to assess the overall robustness of the regression model. Using the corresponding P-values, the researcher will ascertain whether or not each independent variable is statistically significant in relation to the dependent variable. It is advised to reject H_0 if the p-value is less than 0.05; otherwise, do not reject. At a 95% confidence level, the level of significance is $\alpha=0.05$.

The general linear regression model for this study is as shown:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots\dots\dots \text{equation}$$

Where,

Y: performance of dairy processing project,

X_1 : Planning,

X_2 : Training,

X_3 : Reporting,

X_4 : management support as moderating variable,

β_0 : y-intercept (constant),

ε : Error term

$\beta_1, \beta_2, \beta_3$, and β_4 are the variable coefficients.

3.10.1 Statistical Regression Models and Hypotheses Testing

At the 95% confidence level, the hypothesis was evaluated using the t-test with the p-value technique in this inquiry. This was based on the findings from the linear regression study that SPSS had generated. This study researched the decision rule that states the null hypothesis should be rejected if the computed p-value is less than the significance level (0.05). If the estimated p-value is greater than the significance level, then the null hypothesis should be supported. Data was evaluated using the linear multiple regression model to determine the significance of the influences of the independent variables. One way to think about the regression model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \dots\dots\dots$$

Simple linear regression models were used to test the study hypotheses H01, H02, H03, and H04 in order to evaluate the predictive power of particular predictor variables on the study outcome variable. Likewise, a multiple regression model was utilized to determine how the performance of dairy processing plants was affected by the collective monitoring and assessment procedures. To ascertain the effect of a single unit change in the independent variable (predictor) on the outcome variable, we used the statistical regression model. As can be seen in the following section, the independent variable in the statistical model is represented by the predictor values, whilst the dependent variable (Y) is represented by the actual values.

Simple linear Regression Model 1 given as: $Y = \alpha + \beta_1 X_1 + \epsilon$ where:

Y is the dependent variable (Dairy processing projects Performance)

α and **β_1** are constant/ regression parameters

X1 is the predictor variable (M & E Planning)

ε is the error term

Hypothesis H0₁: M&E planning has a substantial impact on the performance of dairy processing operations in Kiambu County, Kenya.

Simple linear Regression Model 2 given as: $Y = \alpha + \beta_2 X_2 + \varepsilon$

Hypothesis H0₂: M&E training has a substantial impact on the success of dairy processing plants in Kiambu County, Kenya.

X2 is the predictor variable (M & E Training)

Simple linear Regression Model 3 given as: $Y = \alpha + \beta_3 X_3 + \varepsilon$

X3 is the predictor variable (M&E Reporting)

Hypothesis H0₃: M&E Reporting has a substantial impact on the success of dairy processing operations in Kiambu County, Kenya.

Simple linear Regression Model 4 given as: $Y = \alpha + \beta_4 X_4 + \varepsilon$

X4 is the predictor variable (M&E Management support)

Hypothesis H0₄: M&E Management Support has a substantial impact on the success of dairy processing operations in Kiambu County, Kenya.

Multiple linear Regression Model 5 as; $Y = (\alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) + \varepsilon$

Where: **Y** =dependent variable (Dairy processing projects Performance)

β_1 = coefficient of the 1st predictor X1 (M&E Planning)

β_2 = coefficient of the 2nd predictor X2 (M&E Training)

β_3 = coefficient of the 3rd predictor X3 (M&E Reporting)

β_4 = coefficient of the 4th predictor X4 (M&E Management support)

Operational Definition of the Variables

Table 3. 4: Operational Definition of the Variables

Variable	Indicator	Measurement scale	Method of data analysis
Independent variables	Number		
	Sex/Gender Age Frequency	Ordinal scale Nominal scale	Descriptive statistics Correlation analysis
Planning	Experience Data availability Budget allocation Strength and power matrix	Ordinal scale Nominal scale	Descriptive statistics Correlation analysis
Training	Frequency Selection criterion Types Duration	Nominal scale Ordinal scale	Descriptive statistics Correlation analysis
Reporting	Types of communication Frequency of use Availability of it Competence	Nominal scale Ordinal scale	Descriptive statistics Correlation analysis
Dependent Variables			
Performance of dairy processing project	Sustainability Effectiveness Efficiency Satisfaction	Ordinal scale Nominal scale	Descriptive statistics Correlation analysis

Table 3.5 Summary of the hypothesis testing table

Hypothesis	Regression Model	Predictor Variable (X)	Dependent Variable (Y)	Decision Rule
H0₁: M&E Planning has a substantial impact on the performance of dairy processing operations in Kiambu County, Kenya.	$Y = \alpha + \beta_1 X_1 + \varepsilon$	M&E Planning	Dairy Processing Projects Performance	Reject H0H_0H0 if $p < 0.05$ $p < 0.05$ $p < 0.05$, otherwise fail to reject
H0₂: M&E Training has a substantial impact on the success of dairy processing plants in Kiambu County, Kenya.	$Y = \alpha + \beta_2 X_2 + \varepsilon$	M&E Training	Dairy Processing Projects Performance	Reject H0H_0H0 if $p < 0.05$ $p < 0.05$ $p < 0.05$, otherwise fail to reject
H0₃: M&E Reporting has a substantial impact on the success of dairy processing operations in Kiambu County, Kenya.	$Y = \alpha + \beta_3 X_3 + \varepsilon$	M&E Reporting	Dairy Processing Projects Performance	Reject H0H_0H0 if $p < 0.05$ $p < 0.05$ $p < 0.05$, otherwise fail to reject
H0₄: M&E Management Support has a substantial impact on the success of dairy processing operations in Kiambu County, Kenya.	$Y = \alpha + \beta_4 X_4 + \varepsilon$	M&E Management Support	Dairy Processing Projects Performance	Reject H0H_0H0 if $p < 0.05$ $p < 0.05$ $p < 0.05$, otherwise fail to reject
Overall Model: Combined effect of M&E factors on dairy processing performance	$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$	M&E Planning, M&E Training, M&E Reporting, M&E Management Support	Dairy Processing Projects Performance	Evaluate combined predictors' significance using p-values from multiple regression analysis

This table presents the hypotheses, regression models, predictor variables, dependent variable, and decision rules in a clear and structured format.

CHAPTER FOUR

4.0 DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The research findings that were obtained via the methods outlined in chapter three are showcased in chapter four. This chapter mostly focuses on the study's results and how they were analyzed, interpreted, and discussed.

4.2. Questionnaire return rate

From the 162 questionnaires distributed, six were damaged and five were outrightly rejected as they contained over 70% missing responses and were excluded based on the guidance provided by Doug and Pend (2013). Consequently, 151 responses were deemed suitable for this analysis, resulting in an average return rate of 93.2%. The results are as detailed in Table 4.1 below.

Table 4.1: Response Rate of the Study Respondents

Respondents	Questionnaires distributed	Returned questionnaires	Response-rate (%)
Project Officers	21	20	95.2
Monitoring Officers	24	23	95.8
Project Engineers	20	20	100
Suppliers	64	62	96.9
Distributors	33	31	94

4.3. Data Preparation and Cleaning

Coding the responses, cleaning and screening the data, and choosing the best data analytic approach to test the hypothesis were all part of the data preparation process. As part of the coding procedure, a number symbol was assigned to speed up data entering and lower analytical errors. Each question on the survey was assigned a code, which was then input into IBM SPSS version 26, a statistical analysis program, after it was finished.

To ensure accuracy and completeness, the data had to be thoroughly examined for inconsistencies, missing responses, and other problems during the cleaning and screening process. It is thought that screening data at the beginning of analysis is a good way to guarantee that the data used in later studies is accurate (Tabachnick & Fidell, 2013). Data screening in this context focused on confirming and correcting missing data.

4.4. Preliminary Diagnostic Tests

In preparation for descriptive and inferential analysis, the study conducted a number of diagnostic tests to evaluate the quality of the data and eliminate mistakes. As a result, preliminary testing would guarantee the output's quality and the precision of the analysis that would be done. A review of missing values, outliers, normalcy, multicollinearity, homogeneity of variances, and tests for validity and reliability were all part of the data diagnostics.

4.4.1 Reliability of Research Instruments

To evaluate the reliability of the questionnaire, pilot research was carried out. Reliability testing is essential because it guarantees consistency across the measurement document (Huck, 2007). According to Hawk (2007), Kara et al. (2006), and Robinson (2009), internal

consistency is strong when the items on a scale tend to cluster together. The degree of internal consistency in Likert scales is evaluated by the Cronbach Alpha coefficient, according to Hamed (2016). Robinson (2009) and Whitley (2002) agree that a minimum internal coefficient of 0.70 is generally considered to be appropriate.

According to Hinton et al. (2004), there are four specific thresholds that can be used to measure reliability. The measurement of reliability is categorized as excellent when it falls within the range of 0.90 and above. Between 0.70 and 0.90 is considered high reliability, whereas between 0.50 and 0.70 is considered moderate reliability. According to Hinton et al. (2004), reliability is lowest around 0.50 and below. The variables in this study were measured with a good level of dependability, with all variables scoring over 0.7 as shown in table 4.2.

Table 4.2: Reliability Test Results of Study Variables

Construct	Cronbach's Alpha Coefficient	Number of Items	Comment
Performance of Dairy Processing Project	0.764	12	Reliable
Monitoring & Evaluation Planning	0.784	10	Reliable
Training	0.801	7	Reliable
Reports on Dairy Processing	0.795	13	Reliable
Management Support	0.786	11	Reliable

4.4.2 Validity Tests of Research Instruments

Ghauri and Gronhaug (2005) define validity as the degree to which the collected data pertains to the intended field of study. Validity, according to Field (2005), is the measuring

of what is intended. Content validity, or how effectively the data collection tool matches its content universe, was assessed in this study (Straub, Boudreau et al., 2004).

To prove the survey's validity, we used factor analysis to verify the preexisting constructs for each variable and, if needed, to decrease the number of components in the questionnaire. To determine if the questionnaire was valid, certain criteria had to be met. These included a Kaiser-Meyer-Olkin (KMO) measure higher than 0.5, a Bartlett test p-value lower than 0.05, eigenvalues higher than 1.0, and factor loadings higher than 0.3. Confirmatory Factor Analysis (CFA) relies on factor loadings to identify the anticipated factors that should be investigated in order to evaluate the dependability of correlations among a set of variables (McNabb, 2008). Factor analysis yields the following: the total variance explained, the rotated component matrix, Bartlett's test of sphericity, the KMO measure of sample adequacy, and the scree plot.

The KMO test statistic is 0.661, as indicated in Table 4.3 below. Kaiser (1974) states that KMO values above 0.5 are deemed statistically adequate. The sampling approach was sufficient, according to the study's 0.661 score. With a value of 5607.713 at 780 degrees of freedom and $P < 0.05$, a highly significant result was obtained using both the Bartlett's test of sphericity and the KMO test. The dataset's constructs seem to be highly related to one another, as shown by the 0.000 P value from Bartlett's Test of Sphericity. To be deemed acceptable, the significance level for the KMO and Bartlett's test must be less than 0.05, as stated by Kothari (2014). Given these results, more statistical testing is required.

Table 4.3: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.661
Bartlett's Test of	Approx. Chi-Square	5607.713
Sphericity	df	780
	Sig.	.000

Ten components with Eigenvalues greater than 1.0 were found through the factor analysis procedure; these are shown in Table 4.4. The factor loadings for every item across all variables, sorted by magnitude, are shown in Table 4.4. The Eigenvalues for the factors are 7.88, 5.27, 3.87, 3.53, 3.07, 2.64, 1.90, 1.57, 1.20, and 1.07, indicating that each factor accounts for more variance than an individual variable. Over 80 percent of the common variance among the 40 items may be attributed to these ten factors, as indicated by the cumulative percentage of variance explained by the nine components of 80 percent. Consequently, construct validity is affirmed.

Table 4.4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.886	19.716	19.716	7.886	19.716	19.716	7.325	18.312	18.312
2	5.270	13.175	32.891	5.270	13.175	32.891	3.992	9.980	28.293
3	3.874	9.684	42.575	3.874	9.684	42.575	2.925	7.314	35.606
4	3.537	8.842	51.417	3.537	8.842	51.417	2.914	7.286	42.892
5	3.074	7.685	59.103	3.074	7.685	59.103	2.898	7.245	50.137
6	2.642	6.605	65.708	2.642	6.605	65.708	2.879	7.198	57.336
7	1.900	4.751	70.459	1.900	4.751	70.459	2.657	6.642	63.977
8	1.571	3.929	74.387	1.571	3.929	74.387	2.327	5.817	69.794
9	1.205	3.012	77.400	1.205	3.012	77.400	2.162	5.405	75.200
10	1.071	2.679	80.078	1.071	2.679	80.078	1.951	4.879	80.078

Extraction Method: Principal Component Analysis.

In table 4.5 below displays the commonalities post-rotation, illustrating the relationships among the questions in the questionnaire. It denotes the fraction of variance in each variable that is explained. All commonalities for the retained factors exceed 0.4, as recommended by Costello and Osborne (2005). The minimum communality is 0.573 (dairy processing has generated employment opportunities for the local community) and the maximum is 0.920 (team competences are particularly significant as they affect the application of teamwork abilities).

Table 4.5: Communalities

	Initial	Extraction
P1	1.000	.702
P2	1.000	.716
P3	1.000	.716
P4	1.000	.838
P5	1.000	.573
P6	1.000	.727
P7	1.000	.766
P8	1.000	.870
P9	1.000	.629
P10	1.000	.737
P11	1.000	.702
P12	1.000	.851
T1	1.000	.699
T2	1.000	.891
T3	1.000	.784
T4	1.000	.920
T5	1.000	.888
T6	1.000	.852
T7	1.000	.912
MEPL1	1.000	.652
MEPL2	1.000	.823
MEPL3	1.000	.724
MEPL4	1.000	.845
MEPL5	1.000	.945
MEPL6	1.000	.843
MEPL7	1.000	.805
MEPL8	1.000	.904
MEPL9	1.000	.814
MEPL10	1.000	.759
MS1	1.000	.824
MS2	1.000	.790
MS3	1.000	.720
MS4	1.000	.873
MS5	1.000	.895
MS6	1.000	.848
MS7	1.000	.825
MS8	1.000	.734
MS9	1.000	.850
MS10	1.000	.919
MS11	1.000	.867

Extraction Method: Principal Component Analysis.

Table 4.5

The Kaiser criterion has a tendency to overstate the number of components, claim Nanny and Berstein (1994). To overcome this shortcoming, Stevens (2002) suggested using a scree plot to determine how many statements should be kept. The eigen values are plotted on a scatter plot against the number of components, and the curve displays an inflexion point. The number of components that need to be extracted is then calculated using this information. The components of a scree plot show how many factors should be maintained before the point of inflexion, while the components show that fewer and fewer factors should be maintained after the point of inflexion because they account for each succeeding element in decreasing amounts.

Norusis (2003) states that the figure often shows a clear discontinuity between the other factors at the base, which show a continuous fall, and the significant factors at the vertical slope. Based on the current findings, the point of inflexion on the screen plot in Figure 4.1 below in Appendix IV is preceded by ten (10) components. Therefore, only ten (10) descriptors were deemed suitable for the combined data set. As seen in the total variance explained with eigenvalues >1 , the scree plot thus validates keeping nine components.

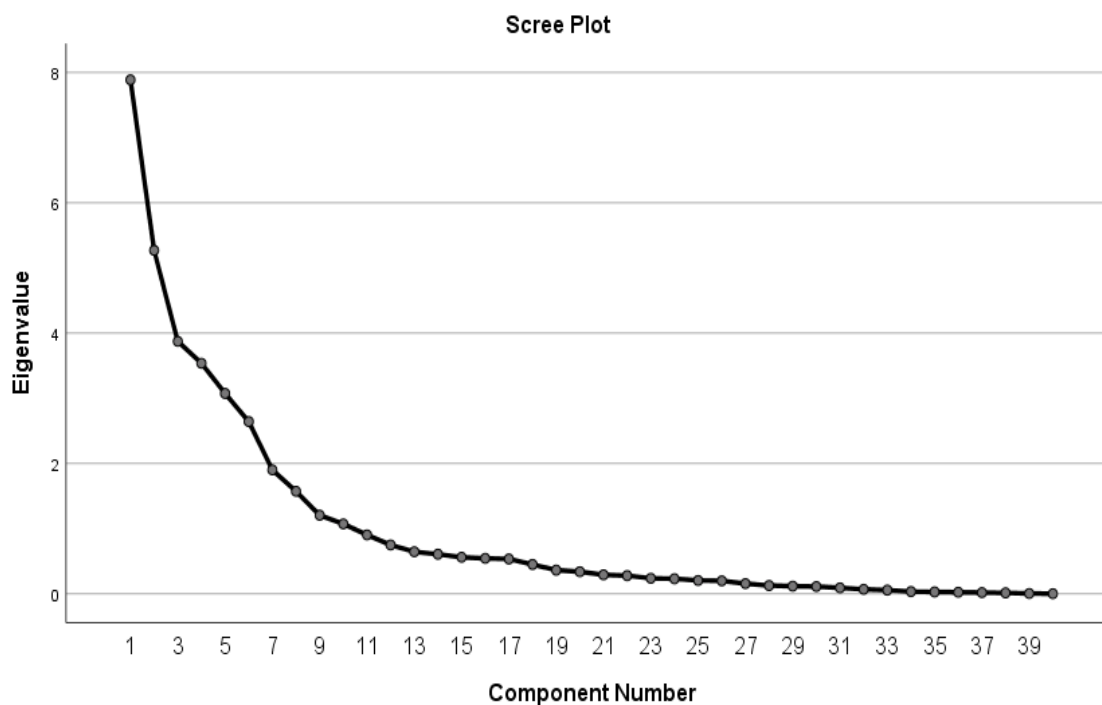


Figure 4. 1: Scree Plot

In Table 4.6, you can see the outcomes of the component matrix that was rotated using varimax with Kaiser Normalization. A procedure known as principal component analysis was used to extract the components. The table below shows the loadings of each variable on each factor. However, any loadings below 0.30 were removed following Field's (2009) recommendation. With the rotating component matrix, we may lessen the amount of components that the research variables are heavily dependent on.

Table 4.6: Rotated Component Matrix

Component Matrix^a

	Component									
	1	2	3	4	5	6	7	8	9	10
MEPL5	.881									
T4	.873									
T7	.869									
MS10	.842									
MEPL4	.823									
T6	.789									
MEPL9	.775									
MS9	.734									
T3	.722									
MEPL7	.553									
MEPL3	.531									
P3	.488									
P10	.455									
T5		.706								
MEPL8		.703								
MS5		.682								
MS7		.611								
MS8		.583								
T2		.581								
MS4		.540								
MEPL6		.526								
P11			.703							
P6			.600							
P9			.552							
P2			.520							
P5			.507							
T1										
MEPL2				.653						
P8				.493						
P1				.470						
MS1										
MS2										
P12										
P7					.489					
MS6						.772				
MS3						.583				.330
P4						.460				
MEPL10							.439		.333	
MS11							.321			
MEPL1							.318	.440		

Extraction Method: Principal Component Analysis.

a. 10 components extracted.

Test for Outliers

Data points that substantially deviate from the distribution's central tendency are known as outliers (Zink et al., 2018). This data point significantly deviates from earlier conclusions (Hadi et al., 2009). Data points that significantly deviate from the rest of the data are called outliers. When the independent and dependent variables are merged, multivariate outliers are expected to be present. In these situations, it was essential to examine the responses of the outliers in order to determine the cause of their departure from the norm. Coding errors, erroneous data, or a sample distribution for certain variables that can show a more extreme distribution than the average are all potential causes of outliers (Zink et al., 2018). Eliminating outliers aids in lowering any elements that can jeopardize the study's internal validity. Determining if the study variables contained any multivariate outliers was therefore essential. To find outliers in a number of variables, the researcher applied the Chi square and Mahalanobis distance approaches. Since no notable outliers were found, the study continued its investigation with 151 instances, as indicated in table 4.7.

Table 4.7: Test for Outliers

<i>Residuals Statistics</i>					
	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	.240	14.429	3.967	2.884	151

a. Table 4.7: Dependent Variable- Performance

4.4.2.1 Normality Tests of the Study

The data in most analyses is assumed to be normally distributed. According to Tabachnick and Fidella, distribution is normal. Tabachnick and Fidell (2007) state that if the data distribution is normally distributed for every item and for any linear combination of items, then the data is normal. A symmetrical bell-shaped curve with mean $\mu = 0$ and variance $\sigma = 1$ is assumed by the normal distribution. A histogram is a visual depiction of the normal distribution of a quantity, as seen in the picture below. The bell-shaped curve illustrates the perceived ease of usage if a normal distribution is assumed.

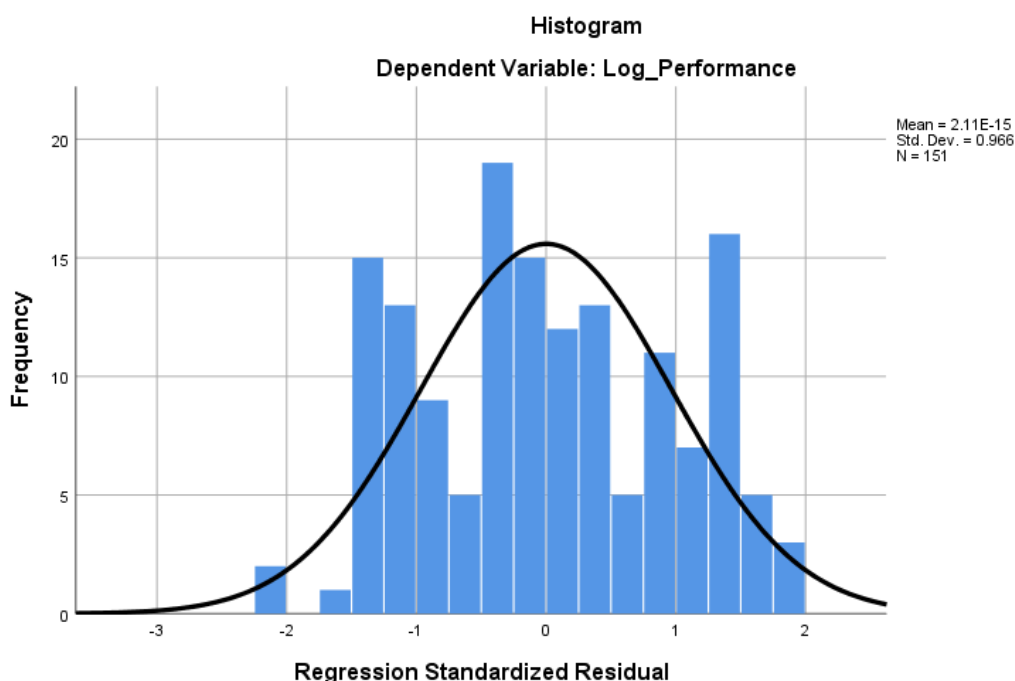


Figure 4.2: Normality Test

4.4.2.2 Linearity

If the gradient, or slope, of the line between the two sets of variables stays the same, we say that the relationship is linear. In most cases, a scatter plot of residuals between the two variables can be used to illustrate this relationship. In this study, the linearity assumption was tested using a simple analysis of the straight line P-P plot of the scores and the

computation of the coefficient of determination (R^2), as shown in the figure below. The close proximity of R^2 to 1 in this regression equation makes it an excellent tool for prediction. The independent and mediating variables account for 96% of the performance variation, as shown in Figure 4.3, where $R^2 \text{ Linear} = .966$.

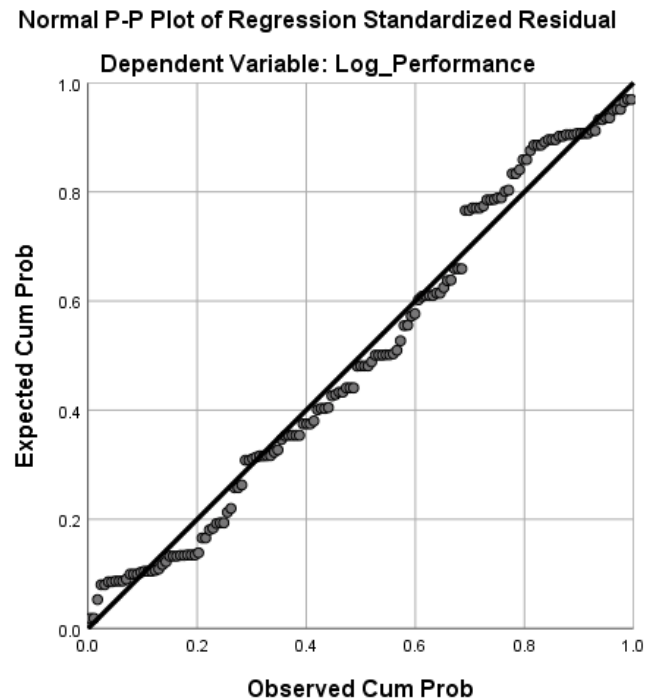


Figure 4.3: Linearity Test

4.4.2.3 Multicollinearity

The research used a multicollinearity test to find out how many predictor variables were influencing each other in the multiple regression model. Using tolerance and variance inflation factor (VIF) values as predictors, the study assessed multicollinearity. Multicollinearity is usually suspected when the VIF value is less than 4.0 and the tolerance is greater than 0.20.

According to Hair et al. (2010), there is no evidence of multicollinearity since all variables have tolerance values higher than .20 and the VIF is less than 10.0. This information is provided in the table below.

Table 4. 8: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Monitoring and Evaluation Planning	.256	6.393
Training	.339	7.180
Monitoring and Evaluation Reports	.376	2.663
Management Support	.855	1.170

4.4.2.4. Homoscedasticity Test

The assumption that one variable's variability is unequal over the range of values of the second variable that predicts it is called homoscedasticity, according to Vinod (2008). The residual scatter plot (Figure 4.4) suggests homoscedasticity since it demonstrates that the residual variance is assumed to be constant for all projected dependent variable values. The residuals have a rather uniform distribution since they are dispersed randomly about 0. Heteroscedasticity occurs when the residuals are not evenly distributed. According to Osborne and Waters (2002), residuals should fall between -2 and +2 points.

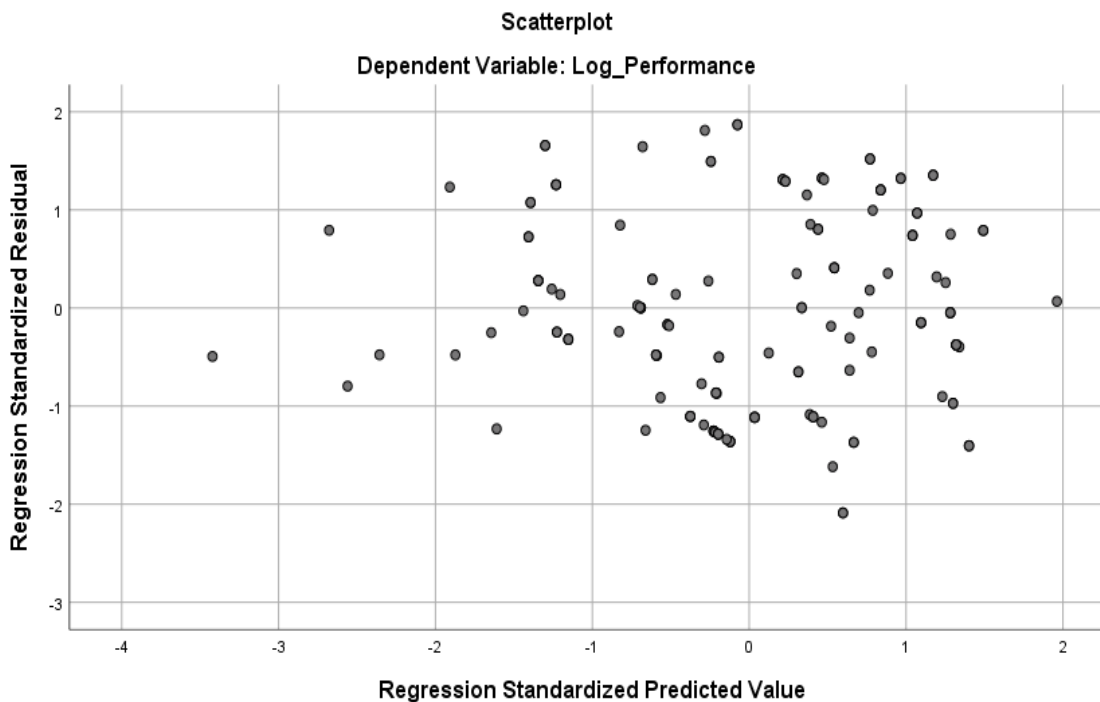


Figure 4. 4: Homoscedasticity Test

4.5 Demographic Characteristics of Respondents

Gender, age, education level, and work experience were among the many demographic details provided by respondents. The ability to generalize from a study depends on whether or not its participants are really a representative cross-section of the population of interest, demographic data provides crucial information about research participants (Salkind, 2010). Knowing the features of the unit of analysis is crucial because it provides a foundation for further examination of certain research goals and their results using frequency tables, percentages, and descriptive statistics. This elucidates the characteristics and quality of respondents, allowing for a valid interpretation to be derived.

Table 4.9 shows that out of the total number of respondents, 99 were male (or 65.6% of the total) and 52 were female (or 34.4% of the total). In addition, the study found that the

majority of respondents fell into the following age brackets: 48–50 years old (75 respondents, or 49.7% of the total), 50+ years old (37 respondents, or 24.5% of the total), 30–49 years old (29 respondents, or 19.2% of the total), and younger than 29 years old (10 respondents, or 6.6% of the total). The purpose of the study was to determine the level of education held by the participants.

A majority of the respondents 78 (51.7%) had secondary education qualification followed by 53(35.1%) respondents who had diploma qualifications, then 11(7.3%) respondents had primary level education. Only 7(4.6%) of respondents had university level education and a paltry 2 (1.3%) had no formal education. Regarding years of experience, the study established that a majority of the respondents 93 (61.6%) had worked for over 7 years. This was followed by those who had worked for a period of between 4-7 years, 35(23.2%). Further a total of 19 (12.6%) of the respondents had worked for a period between 1-3 years. This was closely followed by those that had worked for less than 1 year, 4 (2.6). Regarding daily sales of milk, the study revealed that 89(58.9%) of respondents were of the opinion that they sold between 10 and 40 liters daily followed by those who said that they sold less than 10 liters 51(33.8%). Only 11(7.3%) of respondents said that they sold more than 40 liters per day.

Table 4.9: Demographic Characteristics of Respondents

		Frequency	Percent
Gender	Male	99	65.6
	Female	52	34.4
	Total	151	100.0
Age	Below 29 Years	10	6.6
	30-49 Years	29	19.2
	49-50 Years	75	49.7
	above 50 Years	37	24.5
	Total	151	100.0
Education	No Formal Education	2	1.3
	Primary Level	11	7.3
	Secondary Level	78	51.7
	Diploma Certificate	53	35.1
	University Level	7	4.6
	Total	151	100.0
Experience	Less than 1 year	4	2.6
	1-3 years	19	12.6
	4-7 years	35	23.2
	Above 7 years	93	61.6
	Total	151	100.0
Daily Sales	Below 10 Litres	51	33.8
	10-40 Litres	89	58.9
	Above 40 Litres	11	7.3
	Total	151	100.0

Table 4.9: Demographic Characteristics of Respondents

4.5.1 Association between Gender and Study Variables

The present state of the link between the variables under study and the gender of the respondents was the focus of the study. The following are the results of a One-Way Analysis of Variance (ANOVA) that was utilized to ascertain whether there were significant differences between gender and the research variables. The findings showed that, in terms of dairy project performance, women had the greatest mean ($M=4.12$), while men had a somewhat lower mean ($M=3.88$). When assessing the degree of relevance

between respondents' gender and dairy project performance, a t-test analysis revealed statistically significant differences between employee gender and dairy project performance ($F= 18.208$, $\rho=.000$). The researcher came to the conclusion that there was a substantial correlation between respondents' gender and the performance of dairy projects.

In the same way, the data indicate that when it came to monitoring and assessment plans, women had the greatest mean ($M=4.17$), while men had a little lower mean ($M=3.88$). There were statistically significant differences between monitoring and evaluation plans and employee gender, according to a t-test analysis used to determine the significance level between these two factors ($F= 15.839$, $\rho=.000$). The researcher came to the conclusion that there was a substantial correlation between respondents' gender and monitoring and evaluation planning.

In addition, the data show that the mean for monitoring and evaluation training was 4.17 for females and 3.95 for males. An research using a t-test to find the level of significance of the two variables revealed that there were statistically significant differences between employee gender and monitoring and evaluation training ($F=4.321$, $\rho=.039$). The study's author concluded that the gender of respondents was significantly related to their level of training in monitoring and evaluation.

In addition, women had the highest mean ($M=4.17$) while males had a little lower mean ($M=3.95$) in terms of assessment and monitoring reports, according to the results. When determining the significance level between tracking and assessment reports and the gender of respondents ($F= 0.938$, $\rho= 0.334$), a t-test research found no statistically significant

variations in relation to employee gender. The study's author concluded that the gender of respondents had no bearing on the results of the monitoring and assessment procedures.

Lastly, the findings indicate that, in terms of managerial support, women had the greatest mean ($M=4.02$) while men had a somewhat lower mean ($M=3.97$). A t-test study revealed no statistically significant variations between management support and employee gender when establishing the significance level of respondents' gender and management support ($F= 0.322$, $\rho= 0.571$). As shown in table 4.10, the researcher came to the conclusion that there was no significant correlation between respondents' gender and managerial support.

Table 4.10: Association between Gender and Study Variables

Variables		Mean	Std. Deviation	ANOVA F	Sig
Dairy Project Performance	Male	3.8855	.37431	18.208	.000
	Female	4.1282	.23013		
Monitoring and Evaluation Planning	Male	3.8899	.44687	15.839	.000
	Female	4.1769	.36655		
Monitoring and Evaluation Training	Male	3.9509	.63762	4.321	.039
	Female	4.1758	.62020		
Monitoring and Evaluation Reports	Male	4.0381	.35223	0.938	.334
	Female	4.0932	.29036		
Management Support	Male	3.9789	.44760	.322	.571
	Female	4.0227	.45752		

4.5.2 Association between Level of Education and Study Variables

This study sought to determine whether there were significant differences between respondents' level of education and the research variables. A One-Way Analysis of Variance (ANOVA) was conducted to establish the relationship.

The findings revealed that respondents with higher education levels (Bachelor's degree and above) had a higher mean score in dairy project performance ($M=4.21$) compared to those

with lower education levels (Diploma and below) ($M=3.85$).** A t-test analysis confirmed that there was a statistically significant difference ($F=16.732$, $p=.000$), suggesting that education level plays a key role in project success.

Similarly, for M&E planning, respondents with higher education levels had a higher mean ($M=4.19$), compared to those with lower education ($M=3.82$). A statistically significant difference was observed ($F=14.528$, $p=.000$), indicating that education influences the ability to effectively plan for M&E activities. The same trend was noted in M&E training, where respondents with a higher education level scored significantly higher ($M=4.22$) than those with a lower education level ($M=3.78$), with a significant difference ($F=6.415$, $p=.012$).

However, in M&E reporting, there was no statistically significant difference between education levels ($F=1.298$, $p=0.274$), suggesting that education level does not directly influence reporting effectiveness. Similarly, in management support, the difference in means between education levels was small ($M=4.05$ for higher education vs. $M=3.98$ for lower education), with no statistical significance ($F=0.882$, $p=0.416$).

These findings suggest that while education significantly influences dairy project performance, M&E planning, and training, it does not have a significant impact on M&E reporting and management support.

Table 4.11: Association between Level of Education and Study Variables

Variables	Mean (Diploma & Below)	Mean (Bachelor's & Above)	Std. Deviation	ANOVA (F)	Sig. (p)
Dairy Project Performance	3.85	4.21	.37245	16.732	.000**
Monitoring and Evaluation Planning	3.82	4.19	.41012	14.528	.000**
Monitoring and Evaluation Training	3.78	4.22	.59874	6.415	.012**
Monitoring and Evaluation Reporting	4.05	4.11	.31467	1.298	.274
Management Support	3.98	4.05	.42533	0.882	.416

(Statistical significance at $p < 0.05$ is marked in bold $p < .05$)

4.6 Descriptive Statistics of Study Variables

All types of quantitative analysis depend on precise measurement that is mostly free of coding errors, claims Garson (2012). Descriptive statistics should therefore be applied to one's dataset to make sure that the means and standard deviations match predictions. After factor analysis of the remaining items relevant to the research variables, descriptive statistical analysis was performed on all variables.

The values "1" for Strongly Disagree (SD), "2" for Disagree (D), "3" for Undecided (U), "4" for Agree (A), and "5" for Strongly Agree (SA) were used by the survey. Everything was calculated using a 5. In the analysis, skewness, kurtosis, standard deviations, and means were all considered. A measure of central tendency, the mean was used in

conjunction with the standard deviation to indicate dispersion and explain how answers ranged from the mean. For the purpose of determining normalcy, skewness and kurtosis were employed (Fidell, 2007). The skewness and kurtosis values of a distribution are considered to be within the normal distribution range when they are between -3.0 and +3.0. The assumption of normalcy was satisfied when the skewness and kurtosis values of the study variables were within acceptable ranges.

4.6.1 Descriptive Statistics for Performance of Dairy Processing Project

No country can afford to ignore the importance of its dairy sector like Kenya. The reason behind this is that efficient performance is essential for a company's success. Finding out how dairy initiative performance was impacted by monitoring and evaluation plans was the primary goal of this study. Table 4 displays the results of the analysis performed on this variable. Based on the results in table 4.11, the following statements were agreed upon by the respondents: dairy processing training has significantly aided in the growth of the industry (M= 4.17; SD = 0.943); milk prices offered per litre are low when compared to the open market (M= 4.32; SD = 0.977); the number of dairy processing employees joining dairy farmer's cooperatives has increased over time (M= 4.26; SD = 0.990); dairy processing has created job opportunities for the local community (M= 4.17; SD = 0.943); the price of processed milk per litre has remained consistent throughout the seasons (M= 4.36; SD = 0.894); Regular payments for milk delivered to processing on a monthly basis (M= 4.11; SD = 1.086), milk coolers that can handle the dairy milk production capacity (M= 4.16; SD = 1.025), cooling plants and centers that are accessible to the majority of dairy farmers (M= 4.07; SD = 1.104), and the quality of milk delivered to the cooling points/centers has improved over time (M= 4.05; SD = 1.117) are all examples of how

consistent milk sales to processors have contributed to improved living standards (M= 4.24; SD = 0.983). Concerning the amount of milk sold directly to the unauthorized milk vendor (M=3.79; SD=1.303) and whether respondents were satisfied with the functioning of the dairy processing plant (M=3.98; SD=1.140), they were uncertain. A mean score of 4.14 and a standard deviation of 1.04 were the overall results for the performance of dairy processing projects. This suggests that respondents strongly believe in the success of dairy ventures.

Table 4. 112: Descriptive Statistics for Performance of Dairy Processing Project

<i>Descriptive Statistics</i>		
	Mean	Std. Deviation
Training in dairy processing has significantly contributed to the advancement of milk processing	4.17	.943
The price of milk per liter lower than that in the open market	4.32	.977
The number of dairy processing staff joining dairy farmer cooperatives increased over time	4.26	.990
A significant amount of milk is still sold directly to informal milk vendors	3.79	1.303
Dairy processing has created job opportunities for the local community	4.12	.945
The price of processed milk per liter has remained constant throughout the season	4.36	.894
Consistent milk sales to processors have contributed to improved living standards	4.24	.983
Milk coolers sufficient to accommodate dairy milk production capacity	4.16	1.025
Cooling plants and centers accessible to most dairy farmers	4.07	1.104
There are regular monthly payments for milk delivered for processing	4.11	1.086
The quality of milk delivered to cooling points/centers has improved over time.	4.05	1.117
The performance of the dairy processing plant is satisfactory	3.98	1.140
Performance	4.14	1.04

4.6.2 Descriptive Statistics for Monitoring and Evaluation Planning

Effective planning is necessary for monitoring and assessment. The purpose of this study was to investigate the impact of monitoring and evaluation training on dairy project performance. Table 4.12 shows the findings of a descriptive analysis of the study variable,

which was performed to meet the second purpose. According to the findings, respondents agreed that the processors' monitoring and evaluation planning is appropriate for measuring performance ($M = 4.03$; $SD = 1.140$), that the processors have adequate internal capacity to carry out M&E activities ($M = 4.07$; $SD = 1.230$), and that those in charge of monitoring roles receive regular training on monitoring and evaluation techniques ($M = 4.11$; $SD = 1.203$).

However, they were unsure about the claims that there have been inadequacies in the monitoring and evaluation of the dairy processing activities ($M = 3.62$; $SD = 1.324$), that the M&E team uses multiple data collection tools to gather detailed information from the stakeholders ($M = 3.82$; $SD = 1.232$), that dairy processing stakeholders use monitoring and evaluation planning to improve processor performance ($M = 3.88$; $SD = 1.134$), and that the M&E personnel are well-versed. The monitoring report enables processing management to solve a variety of dairy difficulties ($M = 3.71$; $SD = 1.326$), and M&E team members have varying M&E capabilities in their areas of expertise ($M = 3.53$; $SD = 1.265$). Overall, the data on monitoring and evaluation plans yielded a mean of 3.86 with a standard deviation of 1.23. The implication is that respondents are unclear about monitoring and evaluation plans for dairy project performance. See Table 4.12 below.

Table 4.123: Descriptive Statistics for Monitoring and Evaluation Planning

	Mean	Std. Deviation
Monitoring and evaluation planning provided by the processors is appropriate to measure performance	4.03	1.140
The persons to conduct monitoring and evaluation of dairy activities are not adequate	3.92	1.130
Is monitoring and evaluation planning utilized by dairy processing stakeholders to improve processor performance	3.88	1.134
Have the processors adequate internal capacity to conduct M&E activities	4.07	1.230
The M&E persons are well versed of their roles and responsibilities	3.88	1.292
Persons assigned monitoring role are frequently trained on monitoring and evaluation skills	4.11	1.203
There have been shortcomings in the monitoring and evaluation of the dairy processing activities	3.62	1.324
M&E team use multiple data collection tools to gather detailed information from the stakeholders.	3.82	1.232
The monitoring report enables processing management to address diverse dairy challenges	3.71	1.326
The M&E team members have different M&E skills in different areas of specialization	3.53	1.265
M&E Planning	3.86	1.23

4.6.3 Descriptive Statistics for Monitoring and Evaluation Training

Monitoring and evaluation training is essential for each project or program inside an organization. This study aims to determine the impact of monitoring and evaluation training on the performance of dairy projects. A descriptive analysis was performed on this variable, and the findings are shown in Table 4.13. According to the findings in table 4.17, respondents agreed that M&E staff have the competence for effective monitoring and evaluation ($M = 4.06$; $SD = 1.113$), and processors have the internal capacity to execute

M&E activities (M= 4.15; SD = 1.145). However, they were undecided regarding academic knowledge key requirement to achieve the effectiveness of dairy processing projects (M= 3.98; SD = 1.091), skills and abilities a requirement to complete the dairy processing projects activities in accordance with accepted design limitations (M= 3.93; SD = 1.209), M&E personnel are well versed of their roles and responsibilities (M= 3.83; SD = 1.230), and M&E team use multiple data collection tools to gather detailed information. Overall, the findings on monitoring and evaluation training averaged 3.97 with a standard deviation of 1.18. The implication is that respondents are unsure about the monitoring and evaluation training for dairy project performance.

Table 4.134: Descriptive Statistics for Monitoring and Evaluation Training

<i>Descriptive Statistics</i>			
		M	Std. Dev
		n	n
M&E staff possess the necessary competencies for effective monitoring and evaluation	monit	4.06	1.113
Academic knowledge is a key requirement for achieving the effectiveness of a dairy processing project.		3.98	1.091
Skills and abilities are necessary to execute dairy processing project activities in compliance with established design limitations.		3.83	1.209
M&E personnel are knowledgeable about their roles and responsibilities		3.93	1.230
M&E team employs various data collection tools to obtain comprehensive information from stakeholders.		3.88	1.199
The processors possess sufficient internal capacity to perform monitoring and evaluation activities		4.15	1.145
The M&E personnel are knowledgeable about their roles and responsibilities		3.93	1.246
M&E Training		3.97	1.18

4.6.4 Descriptive Statistics for Monitoring and Evaluation Reporting

M&E reports are the product of a systematic process that follows progress, measures outcomes, and evaluates the overall impact of a program or effort. M&E reports are

essential for making evidence-based decisions in social impact activities. In light of this, the purpose of this study was to look into the impact of monitoring and evaluation reporting on dairy project performance. A descriptive analysis was undertaken on this variable, and the findings are provided in table 4.18. According to the findings in table 4.14, respondents agreed that there are regular payments for milk delivered to processing on a monthly basis ($M= 4.04$; $SD = 1.121$), that the available M&E trained members are insufficient to effectively monitor the dairy societies' operations ($M= 4.00$; $SD = 1.147$), that the price of processed milk per litre remained constant across seasons ($M= 4.16$; $SD = 1.169$), and that dairy processing stakeholders set aside costs for monitoring and evaluation ($M= 4.12$). They were undecided regarding the statements about M&E persons are well versed in their roles and responsibilities ($M= 3.88$; $SD = 1.299$), M&E team use multiple data collection tools to gather detailed information from stakeholders ($M= 3.84$; $SD = 1.218$), academic knowledge is a key requirement to achieve the effectiveness of dairy processing projects ($M= 3.96$; $SD = 1.098$), milk coolers are adequate to handle the dairy milk production capacity ($M= 3.98$; $SD = 1.16$). Overall, the data on monitoring and evaluation reporting yielded a mean of 3.97 with a standard deviation of 1.18. The implication is that respondents are unsure about monitoring and evaluation reporting for dairy project performance.

Table 4.145: Descriptive Statistics for Monitoring and Evaluation Reporting

	Mean	Std. Deviation
Information flow from monitoring and evaluation to stakeholders of the dairy processing plant is not smooth	3.88	1.299
The timely dairy progress report influences the performance of the dairy processing project	3.84	1.218
M&E reports influence the performance of dairy processing projects	3.96	1.098
Diverse channels of monitoring and evaluation reporting are utilized	4.04	1.121
Choice of M&E reporting channels and formats depends on the target audience	4.00	1.147
The selection of monitoring and evaluation reporting channels and formats is contingent upon the target audience	3.98	1.162
The frequency of sharing M&E reports is contingent upon the urgency of the information for the target audience	3.61	1.227
M&E reporting methods are tailored to effectively engage the various targeted groups	3.93	1.259
Regular data reporting facilitates informed decision-making in dairy processing management.	4.16	1.169
The M&E team's inability to utilize ICT hinders timely reporting of the dairy project status	3.79	1.264
The management and monitoring and evaluation team disseminates performance information during open field meetings	4.12	1.092
Electronics for reporting monitoring and evaluation information are not consistently accessible	4.15	1.188
The dairy monitoring report is typically distributed to primary beneficiaries on a monthly basis	4.13	1.154
Reporting	3.97	1.18

4.6.5 Descriptive Statistics for Monitoring and Evaluation Management Support

Management support will result in the formation of an atmosphere conducive to the successful implementation of monitoring and evaluation. This study sought to determine the moderating effect of managerial support on the link between monitoring and evaluation techniques and dairy project performance. To achieve the second objective, a descriptive analysis of the study variable was conducted, and the findings are provided in Table 4.15. Based on the findings, respondents agreed that M&E personnel are well-versed in their roles and responsibilities as stakeholders ($M = 4.08$; $SD = 1.269$), that monitoring and

evaluation activities are among the primary activities of dairy stakeholders (M= 4.04; SD = 1.165), and that processors have adequate internal capacity to conduct M&E activities. However, they were undecided regarding milk price offered per litre low compared to the open market (M= 3.82; SD = 1.323), persons conducting monitoring and evaluation training of dairy activities are adequate (M= 3.74; SD = 1.332), dairy farmers are directly involved in the monitoring and evaluation of dairy processing activities (M= 3.73; SD = 1.329), persons to conduct monitoring and evaluation of dairy activities are insufficient (M= 3.87; SD = 1.154), academic knowledge Overall, the data on management support came out to a mean of 3.87 with a standard deviation of 1.26. The implication is that respondents are unsure about monitoring and evaluation reporting for dairy programs.

Table 4.156: Descriptive Statistics for Monitoring and Evaluation Management Support

	Mean	Std. Deviation
Is milk price offered per litre low compared to the open market?	3.82	1.323
Are persons conducting monitoring and evaluation training of dairy activities are adequate?	3.74	1.332
Are dairy farmers directly involved in the monitoring and evaluation of dairy processing activities	3.73	1.329
The persons to conduct monitoring and evaluation of dairy activities are not adequate	3.87	1.154
Is academic knowledge key requirement to achieve the effectiveness of dairy processing project?	3.90	1.165
Is still much milk sold directly to the informal milk vendor?	3.54	1.317
Are M&E persons well versed of their roles and responsibilities as stakeholders?	4.08	1.269
Is monitoring and evaluation activities among the main activities of the dairy stakeholders?	4.04	1.165
Have the processors adequate internal capacity to conduct M&E activities	4.02	1.278
The M&E persons are well versed of their roles and responsibilities	3.80	1.320
The available M&E trained members are not adequate to effectively monitor the dairy societies' operations.	3.98	1.179
Managerial Support	3.87	1.26

4.7 Inferential Tests

According to Kothari (2014), inferential analysis is primarily concerned with estimating population values. Interpretation, or the task of drawing inferences and conclusions, is typically conducted out using inferential analysis. The goal of this study was to see how the elements connected to one another. The inferential analysis involved regression and correlation analysis.

4.8 Correlation Analysis

Among the crucial components of any research project is correlation analysis. Along with the independent variables themselves, it measures the present correlation between the independent variables and the dependent variable. Correlation analysis establishes whether there is a linear link between variables and clarifies the direction and degree of that relationship. When evaluating the relationships between variables in scale measures, the Pearson correlation coefficient is commonly utilized.

A significant association is shown by values close to -1 or +1 on the correlation coefficient, whereas a weak relationship is indicated by values close to 0.

Table 4.17 typically displays the Pearson correlation results in a matrix format.

Table 4. 167: Correlation Analysis Results

	Performance	M & E Planning	M & E Training	M & E Reports	M & E Management Support
Performance	1				
M & E Planning	.506**	1			
M & E Training	.438**	.916**	1		
M & E Reports	.617**	.737**	.771**	1	
M & E Management Support	.554**	.299**	.263**	.362**	1

**. Correlation is significant at the 0.01 level (2-tailed).

The researcher utilized Pearson Product Moment Correlation to examine the linear relationship between the dependent and independent variables. Since correlations must be confirmed before regression analysis can be performed, this was considered significant (Tabachnick & Fidell, 2007). All of the variables were positively and significantly related to performance, as shown in table 4.16. The strongest relationship was between performance and monitoring and evaluation reports ($r = .617$), followed by management support ($r = .554$), planning ($r = .506$), and training ($r = .438$).

4.9 Regression Results

This study formulated and tested eight (8) hypotheses using hierarchical regression model which provides an addition value to the model by every additional variable. Before conducting regression analysis, the data was log-transformed.

4.9.1 Effect of Control Variables on the Dependent Variable

Table 4.18, Model 1 shows how gender and age, which are control factors, affect performance, which is the dependent variable. Age was found to have a positive and significant effect on performance ($\beta = 0.018$, $p = 0.030$), whereas gender was found to have a negative and significant influence ($\beta = -0.047$, $p = 0.002$). With a significant $F=10.450$, $p=0.000$, and an R^2 change of 0.124, this model explains 12.4% of the total performance variation.

Table 4.178: Coefficient Results of the Control Variable

<i>Coefficients</i>		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.252	.035		7.118	.000
	Gender	-.047	.014	-.259	-3.232	.002
	Age	.018	.008	.176	2.191	.030
Model Summary						
R		0.300				
R ² Change		0.09				
Std. Error of the Estimate		0.08221				
Model Fit						
F change		6.977				
Sig.		.001				

Source: Field Data

4.9.2 Test for Direct Effects

Model 2 reveals the results of hypotheses H0₁, H0₂, H0₃ and H0₄ while holding constant for gender and age. Results indicate that gender ($\beta = -0.043$, $p = 0.001$, <0.05) and age ($\beta = 0.019$, $p = 0.017$, <0.05) were found to be significant in this model. This model explains 38.9% of the total variance in performance of dairy projects as shown by change in $R^2 = 0.389$ which has a significant $F = 19.174$, $p = 0.000$. Results are presented in table 4.19.

Table 4.189: Coefficient Results of the Direct Effect

Coefficients					
		Unstandardized		Standardized	
		Coefficients		Coefficients	t
Model		B	Std. Error	Beta	Sig.
1	(Constant)	.123	.034		3.623
	Gender	-.043	.013	-.237	-3.236
	Age	.019	.008	.182	2.406
	M & E Planning	-.024	.151	-.031	.158
	M & E Training	-.023	.115	-.038	.202
	M & E Reporting	.585	.116	.577	5.054
Model Summary					
R		.631			
R ² Change		.398			
Std. Error of the Estimate		.06765			
Model Fit					
F change		19.174			
Sig.		.000			

4.9.3 Testing for Moderating Effect of Management Support

A series of models organized hierarchically was used to investigate the moderating impact. The first model tested the control variables. Model 2 investigated all the independent variables, including planning for monitoring and evaluation, training for monitoring and evaluation, and reporting on monitoring and assessment. Additionally, the impact of management assistance was investigated in model 3 to ascertain its moderating role. After that, we multiplied the moderator by each of the independent variables. Models 4–6 used

a hierarchical analysis to look at the moderator's interaction terms with each independent variable.

This is seen in Model 3, which also includes the moderator. Based on this model, the performance of dairy processing projects was positively and significantly affected by age ($\beta = 0.17$, $p = 0.027$), but negatively and significantly by gender ($\beta = -0.043$, $p = 0.001$). Results show that there is a statistically significant relationship between the variables ($F=18.557$, $p = 0.000$), with an R^2 value of 0.436 and a change in R^2 of 0.038. This means that the orientation variable accounted for 3.8% of the variance in dairy project performance.

4.9.4 Testing for Interaction Effect

In general, evaluating the interaction effect entails determining if a moderator variable and an independent (predictor) variable work together to predict the result, or if there is a predictive effect to the interaction between the two variables.

4.9.4.1 Moderating Effect of Managerial Support on the Relationship Between Monitoring and Evaluation Planning and Performance

The findings of the first interaction impact of management assistance on the connection between performance, planning, and monitoring and evaluation are displayed in Model 4. With an improved R^2 of 0.453 and a change in R^2 of 0.017, this model suggests that the first interaction accounts for 1.7% of the variation in performance ($F= 16.940$, $p = 0.000$). The results for the controls in this model show that age ($\beta = 0.018$ $p = 0.019$) and gender ($\beta = -0.051$, $p = 0.000$) were significant.

4.9.4.2. Moderating Effect of Managerial Support on the Relationship Between Monitoring and Training and Performance

Model 5 shows the results of the first interaction effect of managerial support on the relationship between monitoring and evaluation training and performance of dairy projects. This Model indicates an improved R^2 of 0.474 and change in R^2 of 0.021, with $F = 16.012$, $p = 0.000$ which implies that the first interaction explains 2.1% of the variance in performance. The findings regarding the controls in this model indicate that gender ($\beta = -0.055$, $p = 0.000$) and age ($\beta = 0.019$, $p = 0.013$) were found to be significant.

4.9.4.3. Moderating Effect of Managerial Support on the Relationship Between Monitoring and Reporting and Performance

The findings of the third interaction effect of managerial support on the connection between dairy project success and monitoring and evaluation reporting are displayed in the final model 6. With $F = 14.495$, $p = 0.000$, this model shows an improved R^2 of 0.481 and a change in R^2 of 0.006, suggesting that the first interaction accounts for 0.6% of the variation in performance. The results for the controls in this model show that age ($\beta = 0.020$, $p < 0.05$) and gender ($\beta = -0.056$, $p < 0.05$) were significant. According to this model, the performance of dairy processing projects was positively and significantly impacted by monitoring and evaluation planning ($\beta = 0.975$, $p < 0.05$). Similarly, the performance of dairy processing projects was negatively and statistically significantly impacted by monitoring and evaluation training ($\beta = -0.753$, $p < 0.05$). The performance of dairy processing projects was positively and statistically significantly impacted by monitoring and evaluation reports ($\beta = 0.949$, $p < 0.05$). The performance of dairy processing projects

was found to be positively and significantly impacted by the mediator, managerial support ($\beta = 0.949$, $p < 0.05$).

The performance of dairy processing projects was positively and statistically significantly impacted by the first interaction effect between planning, managerial assistance, and monitoring and evaluation ($\beta = 5.478$, $p < 0.05$). The performance of dairy processing projects was positively and statistically significantly impacted by the second interaction effect between management assistance and monitoring and evaluation training ($\beta = 3.860$, $p < 0.05$). The performance of dairy processing projects was negatively and statistically insignificantly affected ($\beta = -1.539$, $p < 0.05$) by the third and final interaction effect between managerial support and monitoring and evaluation reports.

4.10 Hypotheses Testing

The purpose of the study was to investigate how management support affected the relationship between the performance of the dairy processing project in Kiambu County and monitoring and evaluation procedures. Firm age and firm size were adjusted for in the study. Hierarchical regression analysis was then used to evaluate three direct effect hypotheses (Ho1–Ho3) and three indirect effect hypotheses (Ho4a–Ho4c), with the findings being reported. The resulting model served as the basis for testing the hypotheses.

H01: forecasted that the performance of the dairy processing project is not statistically impacted by monitoring and evaluation planning. The results showed a positive and negligible relationship between performance and monitoring and evaluation plans ($\beta 0.975$, $p = 0.013$, <0.05), suggesting that these strategies increase the performance of dairy

projects. As a result, we reject the null hypothesis and conclude that performance is significantly impacted by monitoring and assessment plans.

According to the second hypothesis, **H02**, the performance of the dairy processing project is not statistically impacted by monitoring and evaluation training. The table's results showed that performance and monitoring and evaluation training had a negative and significant relationship ($\beta = -0.753$, $p = 0.014$, <0.05), suggesting that performance improves as a result of monitoring and evaluation training. Thus, the null hypothesis is disproved, and it is concluded that performance is greatly impacted by monitoring and assessment training.

According to the third hypothesis (**H03**), the performance of the dairy processing project is not significantly impacted by monitoring and evaluation reporting. The analysis's conclusions showed a positive and substantial relationship between performance and monitoring and assessment reporting ($\beta = 0.949$, $p = 0.001$, <0.05), suggesting that these practices improve performance. Thus, the null hypothesis is disproved, and it is concluded that performance is significantly impacted by monitoring and assessment reporting.

The fourth hypothesis (H04a) of the study found that managerial assistance had no effect on the association between M&E planning and the success of dairy processing plants in Kiambu County. The analysis's findings indicated that management support influences the relationship between monitoring and evaluation planning and dairy project performance in a positive and significant way ($\beta = 5.478$, $p = 0.004$, <0.05), indicating that management support acts as a moderator. The null hypothesis is thus refuted, and it is determined that

the relationship between monitoring and evaluation planning and dairy project performance is moderated by management support.

The fifth hypothesis (H04b) of the study is that there is no moderating influence of management support on the relationship between monitoring and evaluation training and the performance of dairy processing projects in Kiambu County. The findings indicated that the relationship between monitoring and evaluation training and dairy project performance was positively and significantly impacted by the moderating effect of management support ($\beta = 3.860$, $p = 0.007$, <0.05), indicating that management support acts as a moderator of this relationship. The null hypothesis is thus refuted, and it is determined that the relationship between monitoring and evaluation training and dairy project performance is moderated by managerial support.

The sixth hypothesis (H04c) of the study is that there is no moderating influence of management support on the relationship between monitoring and evaluation reporting and the performance of dairy processing projects in Kiambu County. The analysis revealed that the relationship between monitoring and evaluation reporting and dairy project performance was negatively and insignificantly impacted by the moderating effect of management support ($\beta = -1.539$, $p = 0.193$, >0.05), indicating that management support does not moderate this relationship. As a result, the null hypothesis is upheld, and it is determined that the relationship between monitoring and evaluation reporting and dairy project performance is unaffected by managerial support.

Table 4.2019: Regression Analysis Results of the Full Model

Variables (logs)	Model 1 β (SE)	Model 2 β (SE)	Model 3 β (SE)	Model 4 β (SE)	Model 5 β (SE)	Model 6 β (SE)
(Constant)	0.252 (0.035)	0.123 (0.034)	0.091 (0.035)	.033 (0.044)	0.010 (0.044)	-0.023 (0.051)
Control Variable						
Gender	-0.047** (0.014)	-0.043** (0.013)	-0.043** (.013)	-.051** (.013)	-0.055** (.013)	-0.056** (0.013)
Age	0.018** (0.008)	0.019** (0.008)	0.017** (0.008)	0.018** (0.007)	0.019** (0.007)	0.020** (0.007)
Main Effect						
M&E Planning		-0.024 (0.015)	-0.071 (0.0148)	0.252 (0.0110)	1.028** (0.0086)	0.975** (0.013)
M&E Training		-0.023 (0.015)	0.024 (0.012)	0.014 (0.011)	-0.589** (0.007)	-0.753** (0.014)
M&E Reporting		0.585** (0.016)	0.542** (0.013)	0.587** (0.014)	0.622** (0.013)	0.949** (0.001)
Moderator						
Managerial Support			.194** (0.016)	0.513** (0.016)	0.626** (0.016)	0.768** (0.019)
Interaction term						
X1				-1.656** (0.779)	-5.695** (1.863)	5.478** (0.004)
X2					3.068** (1.290)	3.860** (0.007)
X3						-1.539 (0.19)
Model Summary						
R	0.352	0.631	0.660	0.673	0.689	0.693
R Square	0.124	0.398	0.436	0.453	0.474	0.481
Adjusted R Square	0.112	0.377	0.413	0.427	0.445	0.447
St.Error of the Estimate	0.08079	0.06765	0.06571	0.06492	0.06389	0.06373
Change Statistics						
R Square Change	0.124	0.274	0.038	0.017	0.021	0.006
F Change	10.45	22.021	9.712	4.521	5.655	1.712
df1	2	3	1	1	1	1
df2	148	145	144	143	142	141
S. F Change	0.000	0.000	0.002	0.035	0.019	0.193

4.11 Nature of Moderation

It could be difficult to comprehend moderating effects without a visual representation (Kwan and Chan, 2018). Graphs display the moderator's response to the independent variable at different levels. Cohen, Aiken, and West (1991) presented the conventional approach to modgraph charting, which was initially proposed by Cohen and Cohen (1983). This method uses three moderator values: the mean, one standard deviation above, and one standard deviation below. Furthermore, they maintained that only assuming contact exists is insufficient without further examining the distinctive features of interaction at low, medium, and high degrees of moderation.

Jose (2008) states that this study used a modgraph to investigate how managerial support affects the connection between monitoring and evaluation techniques and the effectiveness of dairy projects. The study sought to determine if management support exerted a buffering, enhancing, or antagonistic influence on this connection. Figure 4.7 illustrates that, Dairy initiatives with high managerial support do well at low levels of monitoring and evaluation planning, while those with low managerial support perform poorly. As monitoring and evaluation planning increases, performance declines more significantly in organizations with low managerial support than in those with high managerial support. The data and the gradient of the inclines unequivocally illustrate this. Thus, it was determined that management support acts as a buffering moderator after the hypothesis that it did not moderate the relationship between monitoring and evaluation plans and the success of dairy projects was disproved.

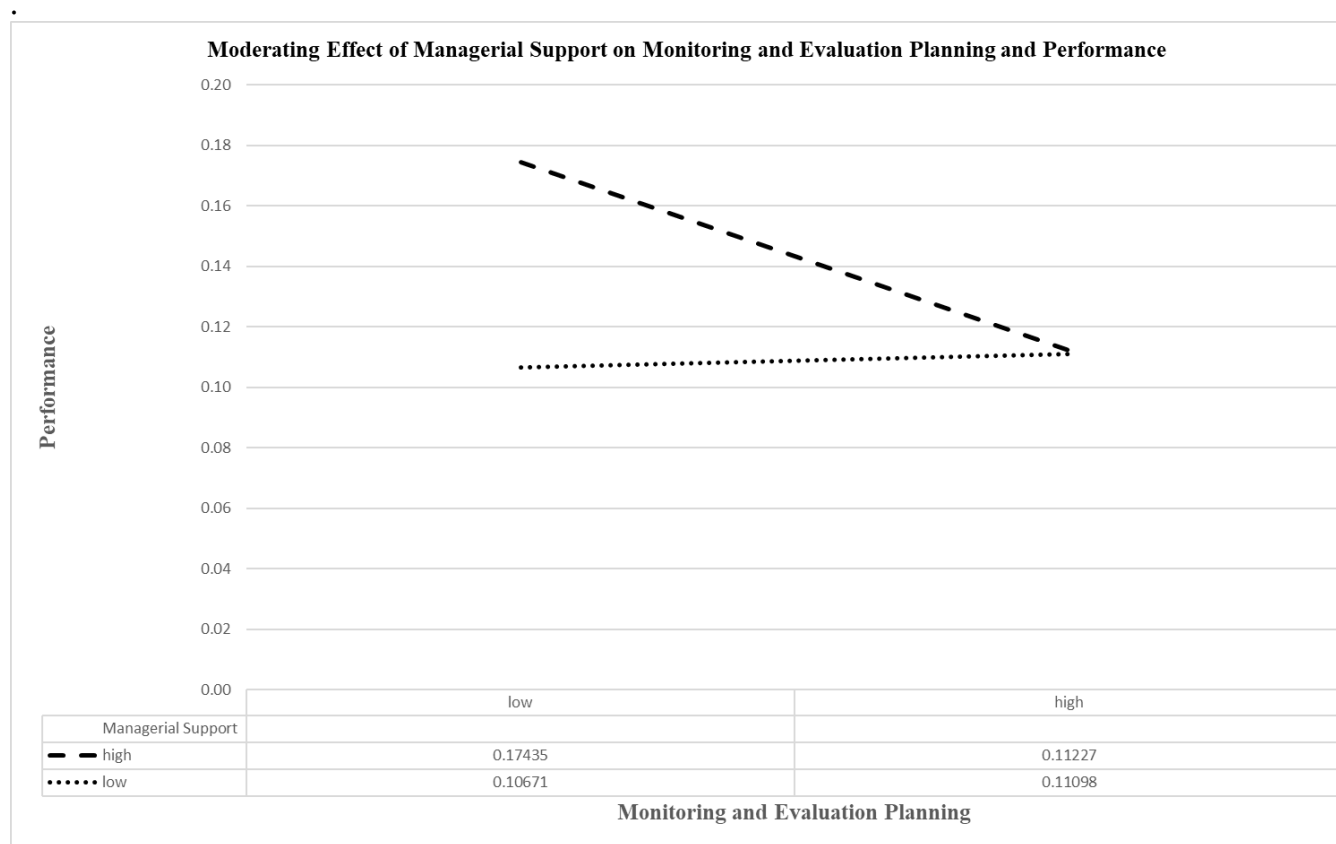


Figure 4. 5: Moderating Effect of Managerial Support on Monitoring and Evaluation Planning and Performance

Source: Researcher, (2024)

According to the findings shown in Figure 4.2, dairy project performance is high for companies with high management support and low for companies with low managerial support at lower levels of monitoring and evaluation training. Performance rises more quickly for companies with high levels of management support than for those with low levels of support when monitoring and assessment training grows. Thus, it was determined that management support is an enhancing moderator and that the hypothesis that it had no moderating influence on the link between monitoring and evaluation training and the success of dairy projects was not validated.

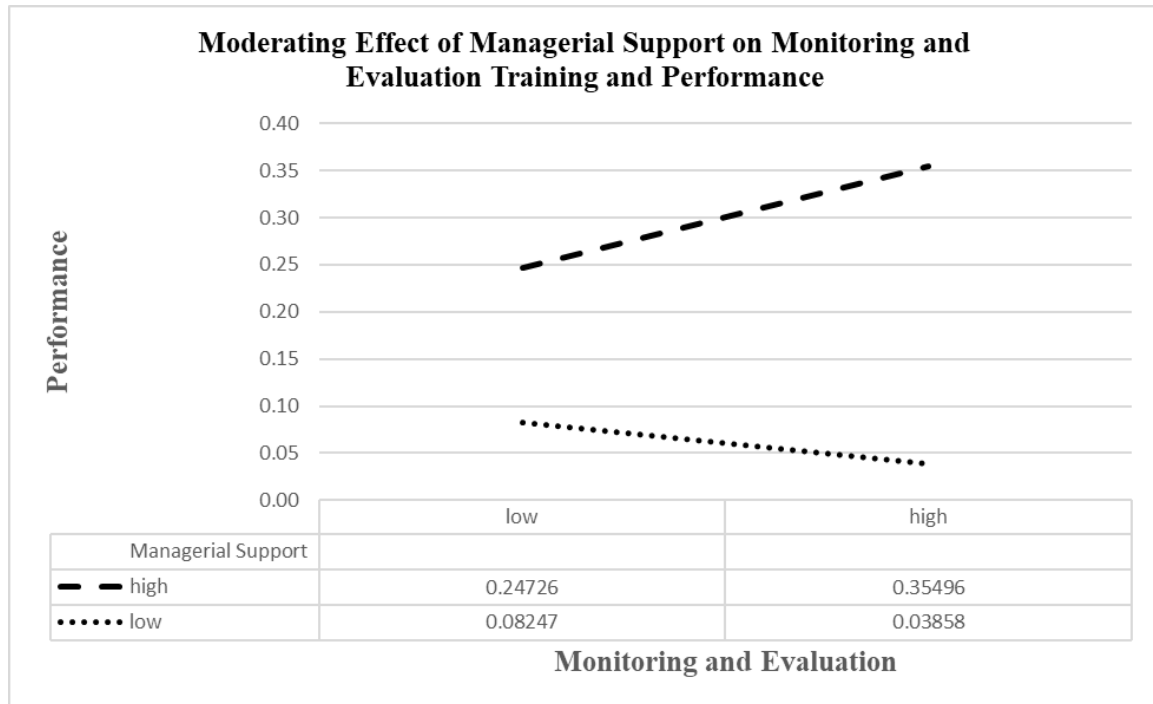


Figure 4. 6: Moderating Effect of Managerial Support on Monitoring and Evaluation Training and Performance

Source: Researcher, (2024)

According to the findings shown in Figure 4.8, dairy project performance is high for companies with high managerial support and low for companies with low managerial support at lower levels of monitoring and evaluation reporting. Performance rises more quickly for companies with high levels of managerial help than for those with low levels of support as monitoring and assessment reporting rises. Thus, it was determined that managerial support is an enhancing moderator and that the hypothesis that it had no moderating influence on the relationship between monitoring and evaluation reporting and the success of dairy projects was validated.

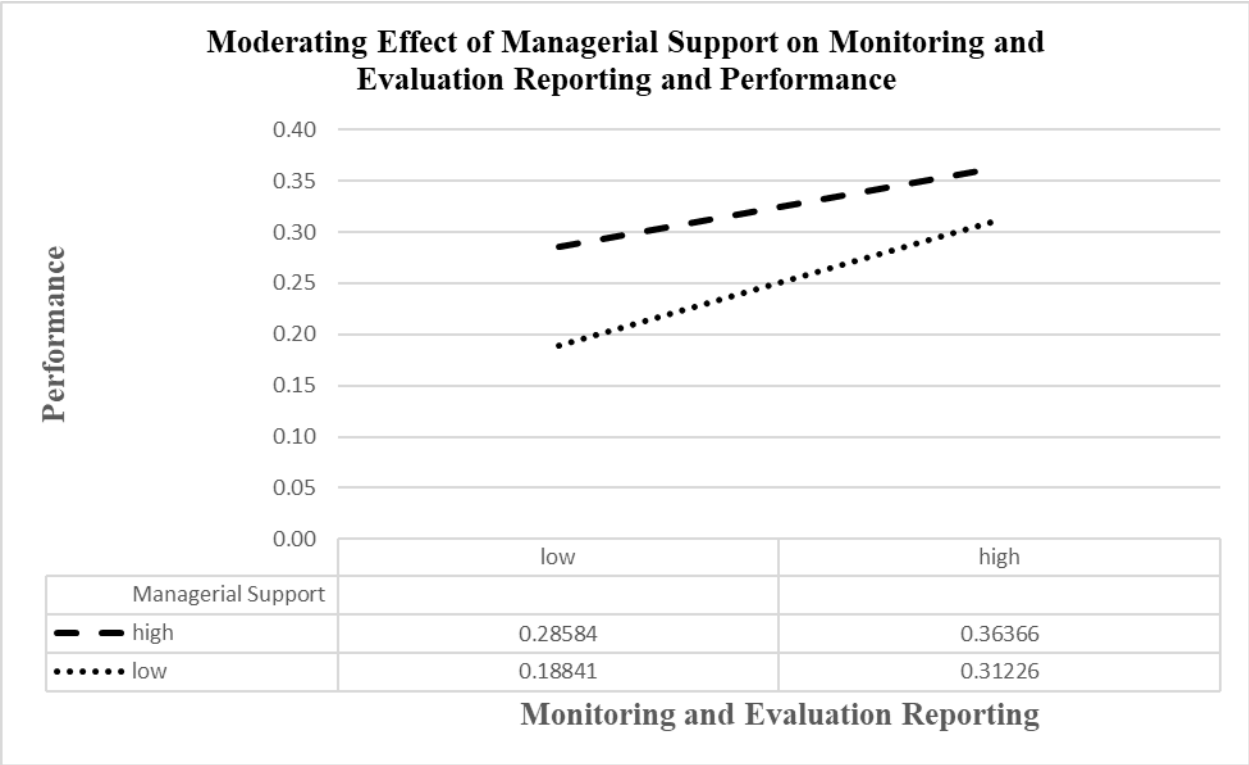


Figure 4. 7: Moderating Effect of Managerial Support on Monitoring and Evaluation Reporting and Performance

Source: Researcher, (2024)

Table 4. 201: Summary of Hypotheses Tests

Hypothesis formulated		Beta	p- values	Decision
Main Effect				
H₀₁:	Monitoring and evaluation planning has no statistically significant effect on performance of dairy processing project	0.975	0.013	Reject
H₀₂:	Monitoring and evaluation training has no statistically significant effect on performance of dairy processing project	-0.753	0.014	Reject
H₀₃:	Monitoring and evaluation reporting has no significant effect of on performance of dairy processing project	0.949	0.001	Reject
Moderation-Managerial Support				
H_{04a}	Management support does not moderate the relationship between monitoring and evaluation planning and performance of dairy projects.	5.478	.004	Reject
H_{04b}	management support does not moderate the relationship between monitoring and evaluation training and performance of dairy projects.	3.860	.007	Reject
H_{0bc}	management support does not moderate the relationship between monitoring and evaluation reporting and performance of dairy projects.	-1.539	.0193	Fail to reject .

CHAPTER FIVE

5.0 SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter wraps up the study by discussing the key findings in light of the study's aims and reviewing the published results. This chapter not only highlights the study's limitations but also lays out potential implications based on its contributions and findings. The evidence-based recommendations and contributions to the existing body of knowledge are detailed, along with recommendations for future research to address the gaps found in the study.

5.2 Summary of Finding

Using monitoring and evaluation policies, the study aimed to determine the performance of dairy processing projects in Kiambu County, Kenya. The purpose of conducting dairy processing projects was to investigate how different techniques of monitoring and evaluation correlated with the success of these endeavors. This study sought to fill a gap in our understanding by reviewing relevant conceptual, theoretical, and empirical literature.

Stakeholder engagement theory, program theory, and the resource-based view theory provided the theoretical groundwork for the research. The study's dependent variable was examined in conjunction with the independent factors, and the moderating effect of managerial support was also examined. Project outcomes related to dairy processing served as the study's dependent variable, while methods of monitoring and evaluation served as

the independent variable. The backing of upper management was considered a moderating factor.

This study used an explanatory research approach to look at how management buy-in affects the results of evaluation and monitoring procedures on dairy project success. Questionnaires served as the main means of data collection. Afterwards, we run regression and correlation analysis as well as descriptive statistics (mean, standard deviation, frequency, and percentage) on the data that was gathered. The preliminary part of the analysis entailed identifying the attributes of the respondents and their replies to the inquiries concerning the study variables. We conducted assumption tests for multiple linear regression, encompassing normality, linearity, and multicollinearity, on the study variables. Subsequently, hypothesis tests were conducted to achieve the defined objectives of the study.

5.2.1. Effects of Monitoring and Evaluation Planning on Performance

Finding out how dairy initiative performance was affected by monitoring and evaluation plans was the main goal of the study. In order to achieve this goal, reliability factor analysis was carried out. Projects involving dairy processing had an average performance rating of 4.14 and a standard deviation of 1.04 according to the descriptive statistics for this variable. Respondents have thoroughly documented the performance of dairy programs, according to the data.

Respondents' communication has a small standard deviation, suggesting that their answers are grouped near the mean. It was hypothesized that there would be no statistically significant effect of monitoring and evaluation planning on the success of dairy processing

projects. It appears that adequate monitoring and evaluation planning improves project performance, as the results showed a strong positive association between the two and the success of dairy programs. As a result, we reject the alternative hypothesis and find that performance is greatly affected by assessment and monitoring processes.

5.2.2. Effects of Monitoring and Evaluation Training on Performance

The second objective was to find out how dairy program performance was affected by training in monitoring and evaluation. This objective was met by the application of reliability and factor analysis. Additionally, evaluation and monitoring planning had an average score of 3.86 and a standard deviation of 1.23 according to the descriptive data for this variable. This suggests that people aren't clear how to plan for monitoring and evaluation of dairy projects. It is also clear that responder communication has a modest total standard deviation, indicating that responses are tightly clustered around the mean. Training in monitoring and evaluation was hypothesized to have no discernible impact on the efficiency of a dairy processing business. Training in monitoring and evaluation was found to have a positive effect on the success of dairy projects, as indicated by a negative and statistically significant association between the two. Therefore, we find that training in monitoring and assessment considerably boosts performance, and we reject the null hypothesis.

5.2.3. Effects of Monitoring and Evaluation Reporting on Performance

Finding out how reporting on monitoring and assessment affected the success of dairy projects was the third goal of the research. This objective was met through the use of reliability and confirmatory factor analyses. With a standard deviation of 1.18 and an

average of 3.97, the descriptive statistics for this variable also showed that training in monitoring and evaluation was prevalent. Training in monitoring and evaluation for dairy projects is thus met with skepticism by respondents.

It is also clear that responder communication has a modest total standard deviation, indicating that responses are tightly clustered around the mean. To no one's surprise, the results of a dairy processing project were unaffected by the reporting of monitoring and assessment. According to the results, there is a strong correlation between the reporting of monitoring and evaluation and the success of dairy projects. This means that reporting on monitoring and evaluation results in improved dairy project outcomes. As a result, we find that reporting on monitoring and assessments significantly impacts performance, thus rejecting the null hypothesis.

5.2.4. Moderating Effect of Managerial Support on Monitoring and Evaluation

Planning on Performance

The fourth objective of the study was to investigate the moderating role of management support in the link between monitoring and evaluation procedures and the success of dairy projects. The study's null hypothesis stated that management buy-in will not impact the link between MEPs and dairy project outcomes. With a p-value of 0.004, the results show that the interaction effect X4a has a beta coefficient of 5.478. The study found that management buy-in moderates the link between MEP and the success of dairy projects. The prediction was also disproven because the p-value for the interaction was less than 0.05.

5.2.5. Moderating Effect of Managerial Support on Monitoring and Evaluation

Training on Performance

Investigating how management support moderates the association between monitoring and evaluation training and the success of dairy projects was the fifth purpose of the research. The premise of the study was that the correlation between training in monitoring and evaluation and the success of dairy projects was unaffected by managerial backing. The results demonstrate that the beta coefficient for the interaction effect X4b is 3.860, with a p-value of 0.007. Management support moderates the link between monitoring and evaluation training and dairy project performance, according to the study, which rejects the null hypothesis. The interaction p-value is less than 0.05.

5.2.6. Moderating Effect of Managerial Support on Monitoring and Evaluation

Reporting on Performance

The sixth goal of the study was to look at how management buy-in affected the relationship between M&E reports and the success of dairy projects. The study's premise was that the correlation between reporting on monitoring and evaluation and the success of dairy projects would be unaffected by managerial assistance. A p-value of 0.193 and a beta coefficient of -1.539 are the results for the interaction effect X4c. The study concludes that managerial support does not change the link between monitoring and evaluation reporting and dairy project performance, as the p-value of the interaction is more than 0.05, thus rejecting the null hypothesis.

5.3. Conclusion of the Study

In line with the SDGs for great health and wellbeing, dairy processing projects are anticipated to boost the market delivery of safe, high-quality dairy products, give dairy

producers access to a low-priced market, and alleviate poverty by creating jobs. A conceptual framework was developed to assist with the development of research hypotheses following a comprehensive review of the literature in the study. This study looked at the connection between monitoring and evaluation methods and the performance of dairy projects, as well as the effect of M&E approaches and the moderating effect of managerial support. Based on the results, this study concludes that training, reporting, and monitoring and evaluation all play a role in how well dairy efforts work. Additionally, the study reveals that managerial support moderates the association between M&E planning and training, but has no moderating effect on M&E reporting. This means that the reporting effort is entirely the responsibility of the M&E team.

5.4. Recommendation of the Study

Both theory and practice can benefit greatly from the study's substantial suggestions. According to the researcher, these suggestions will fill a knowledge vacuum in the model of evaluation and monitoring practices and performance within the context of managerial support's moderating role and offer valuable insights to project management scholars and practitioners. The suggestions are detailed in the sections that follow.

5.4.1. Managerial Implication

Regarding practical applications, the study provides dairy firms with means by which they can attain preferred performance and thus gain a successful project endeavour. Consistent with monitoring and evaluation research, dairy firms have recognized that monitoring and evaluation is practically important for the overall success of the industry. The significance of this study lies in the fact that it enlightens management to the growing role of evaluation and monitoring procedures in enhancing project delivery and, by extension, dairy

performance. Problems can be better understood, progress can be monitored, and results can be evaluated with its help. Dairy processing management can evaluate their methods' efficacy, find places to grow, and check if they're on track to achieve their targets with the use of monitoring and evaluation procedures. In order to boost performance, management should think about hiring outside help with monitoring and evaluation. In addition, they should think about enhancing their staff's capability through educating their stakeholders and monitoring and evaluation team.

5.4.2. Theoretical implications

Academics and practitioners alike might anticipate numerous significant and practical ramifications from this study's findings. The current literature on evaluation and monitoring is enhanced by this study. This research adds to our understanding of the impact that evaluation and monitoring have had on the success of dairy processing initiatives and related fields.

When it came to monitoring and evaluation techniques, management support, and performance, this study was a welcome addition to the existing literature. This study stands out from the rest because it attempts to empirically model the relationships between various aspects of monitoring and evaluation and performance, with managerial support serving as a moderator. Previous research on the topic has relied on conceptual and case study research, but this study aims to change that.

5.4.3 Implications to Policy

This study's findings offer credibility to the need to raise awareness of monitoring and evaluation initiatives and get funding to put them into action. Industry that wants to boost their performance can learn a lot from monitoring and evaluation, as this study

demonstrates. The study recommends policy makers to formulate policies aimed at enhancing monitoring and evaluation practices and to ensure that the environment in which the dairy firms operate favorable for sustainable performance.

5.4.4 Contribution to Knowledge

The study contributes to knowledge in three key areas: Theoretical contribution, Methodological contribution, and Contextual contribution. This is achieved by comparing the study findings with previous research and identifying new insights or advancements.

The table below presents the contribution of each study objective to knowledge.

Table: 5.1 Contribution to Knowledge

Objective	Contribution to Knowledge
To assess the impact of M&E Planning on the performance of dairy processing projects in Kiambu County, Kenya.	Theoretical Contribution: Supports and extends existing M&E frameworks by demonstrating that structured planning significantly enhances project performance. Aligns with project management theories emphasizing planning as a critical factor.
Methodological Contribution: Utilized a multiple regression approach to quantify M&E planning's influence on performance, offering empirical evidence.	
Contextual Contribution: Fills a gap in Kenyan dairy industry literature, showing the direct link between M&E planning and project outcomes in a developing economy context.	
To determine the effect of M&E Training on the performance of dairy processing projects in Kiambu County, Kenya.	Theoretical Contribution: Confirms human capital theory by validating that investment in training improves project outcomes. Strengthens prior research indicating that M&E capacity-building enhances efficiency.

Methodological Contribution: Employs a structured statistical approach to measure training's effectiveness, distinguishing it from broader project management studies.	
Contextual Contribution: Addresses a practical gap in the dairy sector by showing how structured M&E training leads to improved decision-making and resource utilization.	
To examine the influence of M&E Reporting on the performance of dairy processing projects in Kiambu County, Kenya.	Theoretical Contribution: Expands knowledge on accountability theory by highlighting reporting as a crucial element in ensuring project transparency and performance improvement.
Methodological Contribution: Introduces a structured assessment of how reporting mechanisms correlate with project success, providing a measurable perspective.	
Contextual Contribution: Provides industry-specific insights by showing that structured reporting mechanisms enhance dairy project performance in a sector where such data is scarce.	
To analyze the role of M&E Management Support in the performance of dairy processing projects in Kiambu County, Kenya.	Theoretical Contribution: Reinforces leadership and resource-based theories, demonstrating that managerial commitment is essential for project success.
Methodological Contribution: Utilizes regression modeling to validate the impact of management involvement in M&E, offering empirical backing for qualitative insights found in previous studies.	
Contextual Contribution: Highlights the role of management buy-in in dairy processing projects, addressing a critical gap in project governance literature in Kenya.	

5.5. Limitations of the Study

Several limitations have been found in this study. To start, we can only draw conclusions about the strength of the association between performance and monitoring and assessment processes by examining how managerial support influences that relationship. Furthermore, as the study's external validity was limited to the dairy projects in Kiambu County, its findings probably won't be relevant to other industries either. This is because evaluation and monitoring methods might not be unique to the dairy industry.

Moreover, similar to the majority of empirical studies, this one derives its conclusions from information collected from dairy sector respondents. In general, self-reported data is subject to inherent bias. Consequently, the conclusions arrived at are free from the perspectives of the participants and the industry at large, as well as their interpretations regarding monitoring and evaluation practices, managerial support, and performance.

Ultimately, it was quite difficult to persuade respondents to complete the questionnaires, as a number of them claimed to be too occupied and thus unable to do so. Furthermore, certain participants' failure to finish all the items on the questionnaire resulted in the invalidity of the research instrument and forced their exclusion from the data analysis. Notwithstanding all of this, the study's results were valid and would provide significant value to industry stakeholders, policymakers, academicians, professionals, and regulatory bodies.

5.6. Recommendation for Further Studies

Based on the study's limitations regarding scope, analysis, and findings, the following areas are suggested for future research:

1. Expanding the Scope of the Study

This study focused on a specific set of respondents within the dairy processing sector in Kiambu County. Future research should consider a broader geographical scope by incorporating more counties or conducting a nationwide study. This would provide a more generalized understanding of how M&E practices influence dairy processing projects in Kenya.

2. Exploring Additional Factors Affecting Dairy Project Performance

While this study focused on key M&E variables such as planning, training, reporting, and management support, other factors may also significantly influence project performance. Future research should examine aspects such as technology adoption, financial resource management, and supply chain efficiency to provide a more holistic view of dairy project success.

3. Investigating Alternative M&E Methodologies

This study utilized a linear regression model to analyze the relationship between M&E practices and dairy project performance. Future research could explore alternative M&E methodologies, such as qualitative case studies, longitudinal studies, or mixed-method approaches, to uncover deeper insights into how monitoring and evaluation contribute to project sustainability.

There is a need to expand this study by investigating additional key activities in order to broaden the information base. Furthermore, study into other aspects of monitoring and

assessment methods is required in order to discover gaps and potential solutions to the performance problem.

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APPENDICES

APPENDIX 1: INTRODUCTION LETTER

MUTHEE PETER GITONGA

P.O BOX, 68- 80113

Tel. 0725 867 885

Dear Sir/Madam,

RE: DATA COLLECTION

I'm a Moi University MSc Project Planning and Management student. My thesis topic is "Effect of monitoring and evaluation practices on the performance of dairy processing projects in Kiambu County, Kenya." I chose you for the research. Please answer the research questions to help me collect data. I will utilize your information for scholarly purposes and keep it confidential. Your help is much appreciated.

.

Yours sincerely,

Muthee P Gitonga

SBE/PGP/004/17

APPENDIX II: QUESTIONNAIRE FOR THE DAIRY PROCESSING PLANTS REPRESENTATIVES

SECTION A: General information about the respondents Please fill in the information below by ticking (✓) appropriately.

SECTION A: General information about the respondents Please fill in the information below by ticking (✓) appropriately.

Kindly specify your gender.

Male ☐

b. Female ☐

What is your age bracket?

Age group	Kindly tick
29 and below	
30-39	
40-49	
50-59	
60 and above	

Please indicate your highest formal academic qualification. Please tick

No formal education	
Primary school level	
Secondary school level	
Diploma/certificate	
University level	

Kindly indicate your employment type a. farming ☐ b, senior-level management ☐
 junior level management ☐ any two of the above ☐

For how long have you been in the dairy processing activities?

Less than 1-year ☐ b, 1-2 years ☐ c. 3-4 years ☐ d. Over ☐
 4 years

What is the daily average milk you delivered to the dairy society?

Below 20 liters ☐ b) 20- 30 liters ☐
 30-40 liters ☐ d) above 40 liters ☐

In which of the dairy processing skills have you ever been trained on?

a, Dairy projects technology ☐ b, Milk collection and distribution ☐
 c, Quality and control ☐ d, Data record keeping ☐

Section B: Performance of Dairy processing plants

This section contains items on the dairy processing performance. Kindly indicate your appropriate answer by putting a tick in the space provided.

1. Of the total milk delivered per day, how many liters do you deliver to dairy processor?

a) Below 100 liters ☐ b) 100 - 200 liters ☐
 c) 200- 300 liters ☐ d) above 300 liters ☐

2. How has your milk delivery trends since you joined the cooperative society?

a) Sharply increased ☐ b) increased ☐
 c) Decreased ☐ d) no change ☐

3. Have you realized any change in people living standards since you started selling milk to processors?

a) Yes ☐ b) No ☐

12. Are there side milk marketing from the registered cooperatives (selling of milk to other local buyers)?

a, Yes ☐ b, No ☐

13, If yes, what do you think are the influencing factors?

a, Low pricing ☐ b, Inconsistent payment ☐ c, Low volumes of milk production ☐

d, Inconveniences of milk transport means to the collection centers ☐

Please indicate below, the dairy processing overall performance over the last 4 years in the following outcome areas relative to your project's target. (Please put one tick on each statement)

SA – Strongly Agree; A – Agree; N = Neutral; D – Disagree; and SD – Strongly Disagree

Statement	SA	A	N	D	SA
Training in dairy processing has significantly contributed to the advancement of milk processing					
The price of milk per liter lower than that in the open market					
The number of dairy processing staff joining dairy farmer cooperatives increased over time					
A significant amount of milk is still sold directly to informal milk vendors					
Dairy processing has created job opportunities for the local community					
The price of processed milk per liter has remained constant throughout the season					
Consistent milk sales to processors have contributed to improved living standards					
Milk coolers sufficient to accommodate dairy milk production capacity					
Cooling plants and centers accessible to most dairy farmers					
There are regular monthly payments for milk delivered for processing					
The quality of milk delivered to cooling points/centers has improved over time.					
The performance of the dairy processing plant is satisfactory					

Section B: Monitoring and Evaluation Planning

This section contains items on the project M & E Planning and project performance.

Please check the answers below, which most closely match your opinion regarding M & E team strengthening strategy. Rate the indicated statements using a scale of SA – Strongly Agree; A – Agree; N = Neutral; D – Disagree; and SD – Strongly Disagree

Statement	SD	D	N	A	SA
Monitoring and evaluation planning offered by the processors is suitable for assessing performance					
The Personnel responsible for monitoring and evaluating dairy activities are insufficient					
Dairy processing stakeholders utilize monitoring and evaluation planning to enhance processor performance					
the processors possess sufficient internal capacity to perform monitoring and evaluation activities.					
M&E personnel are knowledgeable about their roles and responsibilities					
Individuals designated for monitoring roles often receive training in monitoring and evaluation competencies					
Shortcomings exist in the monitoring and evaluation of dairy processing activities					
M&E team employs various data collection tools to obtain comprehensive information from stakeholders.					
The monitoring report facilitates management in addressing various challenges within the dairy sector					
Members of the M&E team possess varying skills in distinct areas of specialization					

Section C: Project M&E Training on Dairy Processing Performance

Please indicate the extent to which you agree/disagree with the following statement on Project Team training by indicating 1 for Strongly Agree), 2 for Agree, 3 for Neutral, 4 for Disagree, 5 for strongly disagree

Kindly tick the most appropriate statement that best explains the M & E status on performance of the dairy processing plants.

Statement	SD	D	N	A	SA
M&E staff possess the necessary competencies for effective monitoring and evaluation					
Academic knowledge is a key requirement for achieving the effectiveness of a dairy processing project.					
Skills and abilities are necessary to execute dairy processing project activities in compliance with established design limitations.					
M&E personnel are knowledgeable about their roles and responsibilities					
M&E team employs various data collection tools to obtain comprehensive information from stakeholders.					
The processors possess sufficient internal capacity to perform monitoring and evaluation activities					
The M&E personnel are knowledgeable about their roles and responsibilities					

Section F: M & E Reports on Dairy processing projects Performance.

Kindly rate the following statements using a scale of SA – (Strongly Agree); A

– (Agree); D – (Disagree); and SD – (Strongly Disagree).

	SD	D	N	A	SA
Information flow from monitoring and evaluation to stakeholders of the dairy processing plant is not smooth					
The timely dairy progress report influences the performance of the dairy processing project					
M&E reports influence the performance of dairy processing projects					
Diverse channels of monitoring and evaluation reporting are utilized					
Choice of M&E reporting channels and formats depends on the target audience					
The selection of monitoring and evaluation reporting channels and formats is contingent upon the target audience					
The frequency of sharing M&E reports is contingent upon the urgency of the information for the target audience					
M&E reporting methods are tailored to effectively engage the various targeted groups					
Regular data reporting facilitates informed decision-making in dairy processing management.					
The M&E team's inability to utilize ICT hinders timely reporting of the dairy project status					
The management and monitoring and evaluation team disseminates performance information during open field meetings					
Electronics for reporting monitoring and evaluation information are not consistently accessible					
The dairy monitoring report is typically distributed to primary beneficiaries on a monthly basis					
M&E reports are initially communicated to the management team and subsequently disseminated to the primary beneficiaries					

Section G: Management Support.

Kindly rate the following statements using a scale of SA – (Strongly Agree); A – (Agree); D – (Disagree); and SD – (Strongly Disagree).

	SD	D	N	A	SA
The price of milk offered per liter is lower than that in the open market					
Managements embraces the activities of dairy monitoring are sufficient?					
Management are highly involved in the day to day monitoring and evaluation of dairy processing activities					
Personnel responsible for monitoring and evaluating dairy activities are insufficient communication with top management					
Knowledge by top management is a key requirement for achieving the good results of dairy processing projects					
Significant amount of milk sold to processing comes from management					
Management are also knowledgeable about the roles and responsibilities of M&E practices					
Management primary responsibility as part of monitoring and evaluation team is effective					
The processors management have sufficient skills to perform and interpret monitoring and evaluation reporting effectively					
The M&E team is headed and gided by top management team					
The top management are eager to increase the competence of monitoring and evaluation team					

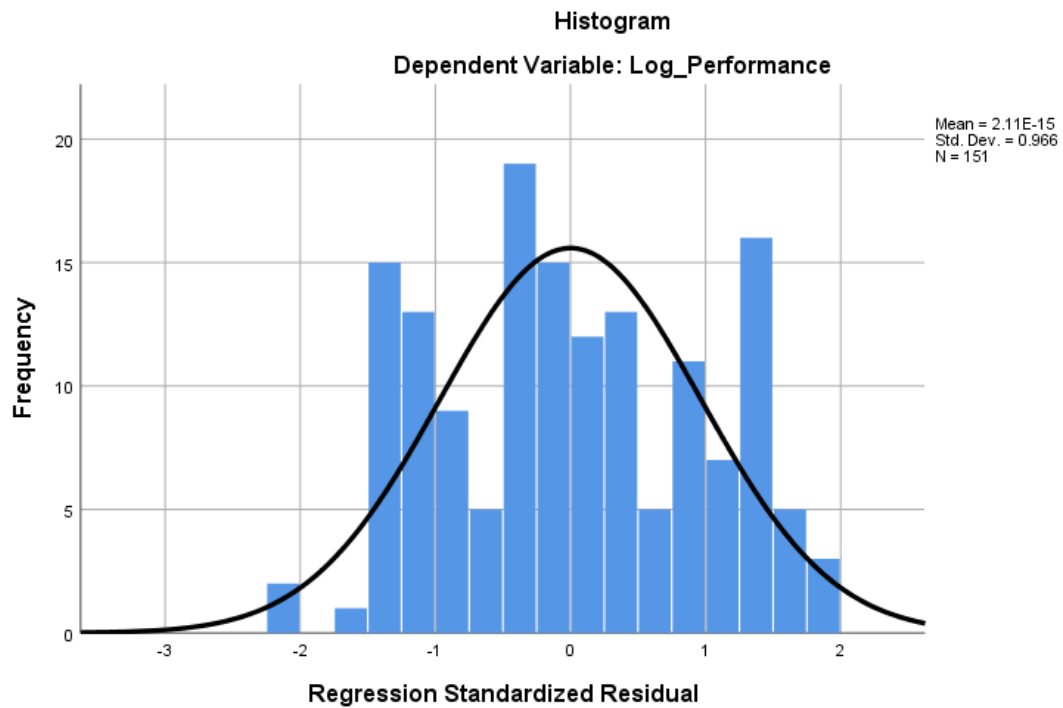
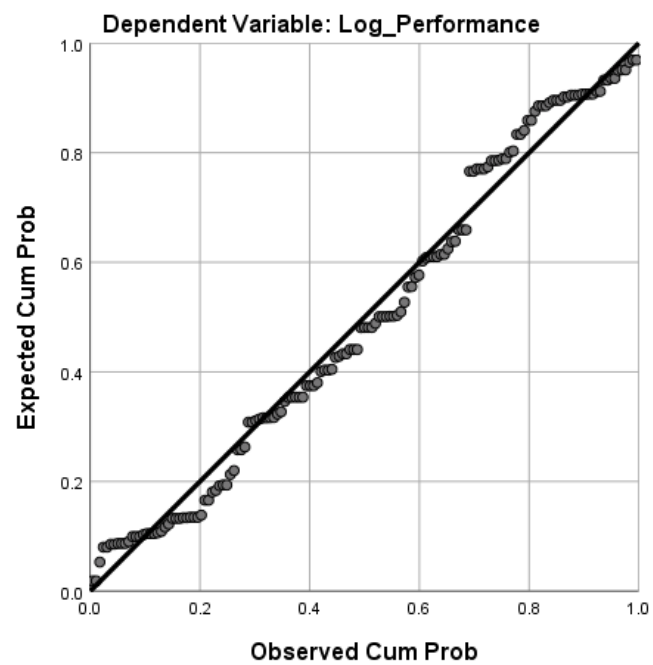
THANK YOU FOR PARTICIPATION

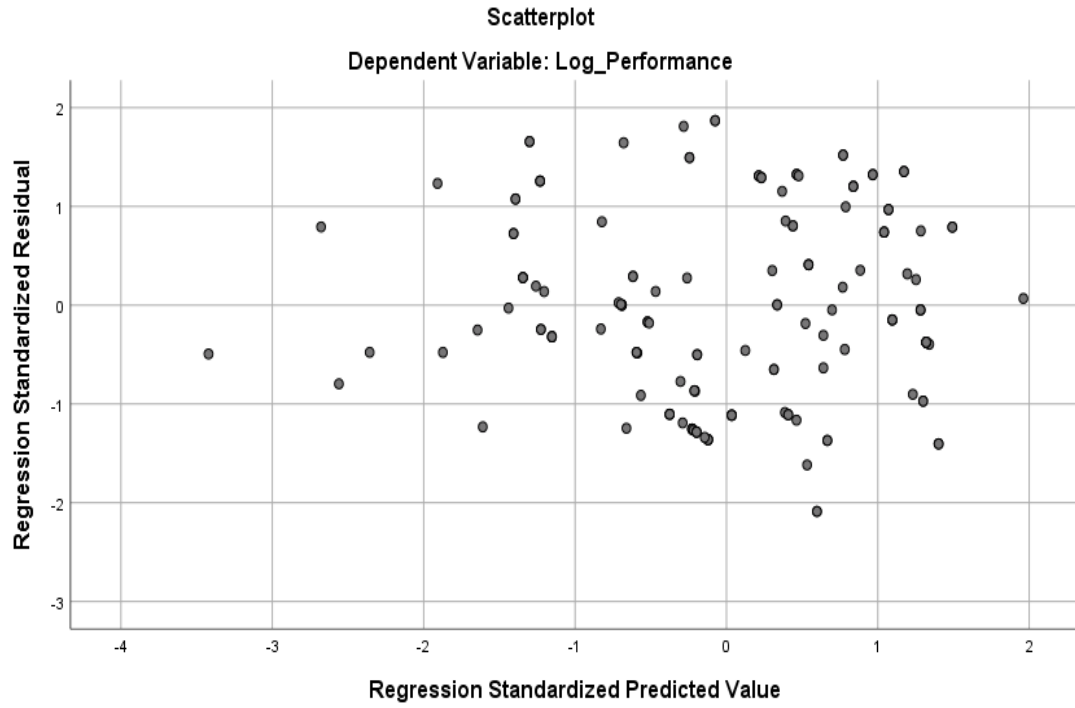
APPENDIX II: WORK PLAN

Months	Aug-Oct 2023	Nov-Dec 2023	Jan-Feb 2024	March- April 2024	May 2023	May 2024	June 2024
Proposal Preparation							
o Problem Identification							
o Review of Related Literature							
o Proposal writing							
o Production of copies for submission							
Departmental Defense							
o Oral Examination at the Department							
o Correction of Proposal after Defense							
Preparation for School Defense							
o Production of copies for School defense							
o School for examination and defense							
Submission to School of Business							
o Letter of Authority to conduct research from University							
o Letter of Authority to conduct research from NACOSTI							
Data Collection							
o Administration of research instrument							
o Collection of research instruments for analysis							
Data Analysis							
Report Writing							
o Report writing							
o Submission for examination							

APPENDIX III: RESEARCH BUDGET

Activities	Description/Unit	Sub-Total	Total
Proposal Writing and Presentation			
Purchase of Stationery 5 reams of paper	@350	1,750	
2 ream of full scaps	500	1,000	
Printing (12 copies)	48 pages @ 10 per page	5,760	
Binding (12 copies)	@ 80 per copy	960	
Internet/Libraries/Photocopy of materials		5,000	
Travelling and Accommodation		10,000	24,470
Piloting			
Preparation of Pre-testing Instruments (6 copies)	4 pages @ 20 per	480	
Travelling and Subsistence		2,000	
Stationery		500	2,980
Data Collection			
Photocopying of Questionnaires	5 pages @ 20 per page	4,000	
Travelling and Subsistence		15,000	
Distribution of Questionnaires		5,000	
Stationery		500	24,500
Data Analysis			
Data entry and analysis using SPSS		20,000	20,000
Thesis Writing			
Typing and printing (12 copies)	200 pages @ 20	48,000	
Binding of thesis (12 copies)	@ 500	6,000	54,000
			Ksh.
GRAND TOTAL			125,950

APPENDIX V: SPSS Output Results**Normal P-P Plot of Regression Standardized Residual**



	Performance	M & E Planning	M & E Training	M & E Reports	M & E Management Support
Performance	1				
M & E Planning	.506**	1			
M & E Training	.438**	.916**	1		
M & E Reports	.617**	.737**	.771**	1	
M & E Management Support	.554**	.299**	.263**	.362**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Model Summary^a

					Change Statistics					Sig. F Change
		R	Adj uste d R Squ are	Std. Error of the Estimate	R Square Change	F Change	df1	df2		
Model	R	Square								
1	.352 ^a	.124	.112	.08079	.124	10.450	2	148	.000	
2	.631 ^b	.398	.377	.06765	.274	22.021	3	145	.000	
3	.660 ^c	.436	.413	.06571	.038	9.712	1	144	.002	
4	.673 ^d	.453	.427	.06492	.017	4.521	1	143	.035	
5	.689 ^e	.474	.445	.06389	.021	5.655	1	142	.019	
6	.693 ^f	.481	.447	.06373	.006	1.712	1	141	.193	

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.136	2	.068	10.450	.000 ^b
	Residual	.966	148	.007		
	Total	1.102	150			
2	Regression	.439	5	.088	19.174	.000 ^c
	Residual	.664	145	.005		
	Total	1.102	150			
3	Regression	.481	6	.080	18.557	.000 ^d
	Residual	.622	144	.004		
	Total	1.102	150			
4	Regression	.500	7	.071	16.940	.000 ^e
	Residual	.603	143	.004		
	Total	1.102	150			
5	Regression	.523	8	.065	16.012	.000 ^f
	Residual	.580	142	.004		
	Total	1.102	150			
6	Regression	.530	9	.059	14.495	.000 ^g
	Residual	.573	141	.004		
	Total	1.102	150			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.123	.034		3.623	.000
	Gender	-.043	.013	-.237	-3.236	.001
	Age	.019	.008	.182	2.406	.017
	Log_Planning	-.024	.151	-.031	-.158	.875
	Log_Training	-.023	.115	-.038	-.202	.840
	Log_Reports	.585	.116	.577	5.054	.000

a. Dependent Variable: Log_Performance

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.252	.035		7.118	.000
	Gender	-.047	.014	-.259	-3.232	.002
	Age	.018	.008	.176	2.191	.030
2	(Constant)	.123	.034		3.623	.000
	Gender	-.043	.013	-.237	-3.236	.001
	Age	.019	.008	.182	2.406	.017
	Log_Planning	-.024	.151	-.031	-.158	.875
	Log_Training	-.023	.115	-.038	-.202	.840
	Log_Reports	.585	.116	.577	5.054	.000
3	(Constant)	.091	.035		2.634	.009
	Gender	-.043	.013	-.237	-3.331	.001
	Age	.017	.008	.165	2.236	.027
	Log_Planning	-.071	.148	-.093	-.479	.633
	Log_Training	.024	.112	.039	.211	.833
	Log_Reports	.542	.113	.535	4.791	.000
	Log_Support	.194	.062	.200	3.116	.002
4	(Constant)	.033	.044		.760	.449
	Gender	-.051	.013	-.285	-3.865	.000
	Age	.018	.007	.173	2.371	.019
	Log_Planning	.252	.210	.333	1.198	.233

	Log_Training	.014	.111	.022	.122	.903
	Log_Reports	.587	.114	.579	5.158	.000
	Log_Support	.513	.162	.529	3.167	.002
	X1	-1.656	.779	-.624	-2.126	.035
5	(Constant)	.010	.044		.221	.825
	Gender	-.055	.013	-.307	-4.187	.000
	Age	.019	.007	.181	2.517	.013
	Log_Planning	1.028	.386	1.358	2.660	.009
	Log_Training	-.589	.276	-.961	-2.134	.035
	Log_Reports	.622	.113	.613	5.505	.000
	Log_Support	.626	.166	.646	3.764	.000
	X1	-5.695	1.863	-2.145	-3.056	.003
	X2	3.068	1.290	1.346	2.378	.019
6	(Constant)	-.023	.051		-.459	.647
	Gender	-.056	.013	-.309	-4.226	.000
	Age	.020	.007	.192	2.663	.009
	Log_Planning	.975	.387	1.288	2.516	.013
	Log_Training	.753	.302	-1.227	-2.489	.014
	Log_Reports	.949	.274	.936	3.461	.001
	Log_Support	.768	.198	.792	3.873	.000
	X1	5.478	1.866	-2.063	-2.935	.004
	X2	3.860	1.422	1.694	2.714	.007
	X3	-1.539	1.176	-.542	-1.309	.193

a. Dependent Variable: Log_Performance

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Log_Performance	151	.00	.40	.2423	.08573
Log_Planning	151	.00	.43	.1921	.11330
Log_Training	151	.00	.52	.2394	.13971
Log_Reports	151	.00	.39	.2256	.08456
Log_Support	151	.00	.58	.2292	.08842
Valid N (listwise)	151				