

**DETERMINANT OF FINANCIAL PERFORMANCE OF MICRO AND SMALL DAIRY
SECTOR ENTERPRISES IN KIAMBU COUNTY**

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DECLARATION

I declare that this is my own work and has not been earlier submitted to any other learning institution for purposes of examination.

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This research project has been presented for purposes of examination with my consent as the Supervisor.

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ABSTRACT

MSEs are acknowledged as drivers of social economic growth, both in developing and developed economies due to their essential role in rise in GDP, entrepreneurship, creation of new jobs and innovation. However, although micro, MSEs play crucial role in economic development and employment, the MSEs in developing countries face a financial gap. Additionally, despite the potential of MSEs in Kenya to facilitate and foster growth, statistics indicate that most Kenyan MSEs never celebrate their fifth birthday due to myriad financial constraints which affect their financial performance. Further, though MSEs are making positive contributions to Kenyan economic growth, the rate of failure is high. Thus, this research evaluated the determinants of financial performance of micro and small enterprises in in dairy sector within Kiambu County, Kenya. The specific objectives of the study were to examine effect of financing decisions, investment decisions and technology adoption on financial performance of micro and small enterprises in dairy sector located in Kiambu County, Kenya. A descriptive research design was used and the target population consisted of 430 dairy micro as well as small enterprises in Kiambu County. The simple random sampling method was employed in choosing sample size of 129 micro and small enterprises managers. The study used primary data which was collected by use of structured questionnaires. This study used descriptive and inferential statistical tools for analysis of the collected data using SPSS statistical software. Additionally, descriptive statistics such as percentages, frequency, mean and standard deviation were employed to summarize collected data. Inferential statistics included the regression model which was employed to assess the link between dependent, and independent variables and presented in graphs and tables. The study found that financing decisions have positive and significant effect on dairy micro as well as small enterprises in Kiambu County. The study also found that investment decisions have positive and significant effect on dairy micro as well as small enterprises within Kiambu County. The study revealed that technology adoption has a negative significant effect on financial performance of dairy micro as well as small enterprises in Kiambu County. Moreover, the study recommends that dairy farmers ought to seek to expand their small enterprises by increasing the number of dairy cows so as to increase milk production, which would in turn improve profitability of the farms. In addition, dairy farmers should use diversification in their farms by introducing dairy goats, chicken among other livestock.

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DEDICATION

This research is dedicated to my entire family for the tremendous and many sacrifices made during the research process. Their motivation, concern and love inspired me to work harder on finishing this research project.

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ACRONYMS AND ABBREVIATIONS

DFCS:	Dairy Farmers Cooperative Society
DOI:	Diffusion of Innovation
GDP:	Gross Domestic Product
LDCs:	Less Developed Countries
MSEs:	Micro and Small Enterprises
ROA:	Return on Assets
ROE:	Return on Equity
ROK:	Republic of Kenya
SACCOs:	Savings and Credit Cooperative Societies
US:	United States

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

MSEs play an essential economic role in numerous countries. Many governments and development organizations have focused on the promotion of MSEs as a way of encouraging broader participation in the private sector (Kushnir, 2010). MSEs aid to economic development by increasing national output, creating jobs and reducing income inequality and poverty MSEs are regarded as the engine of economic growth in growing economies (Agwu & Emeti, 2013). The MSEs sector accounts for 60-70 per cent of jobs in most developed and developing countries, and for most of the new jobs created, several countries in Africa have prioritized their investment in MSEs (Mweresa & Muturi, 2018).

According to Mendes, S., Serrasqueiro and Nunes (2014), 67% of firms are made up of MSEs and contribute 40% GDP. Mwashuiya and Mbamba (2020) states that MSEs in developing states provide benefits such as; job creation, knowledge spillover, economic multipliers, innovations drivers and cluster development in an economy. Developing countries are noticeably supporter and attraction of economic prosperity and growth of socioeconomic wellbeing of a country. Gunto and Alias (2014) state that Malaysian government has given priority to MSEs and has policy and institutional framework that address their development needs. Unfortunately, according to Newman, (2012) MSEs worldwide especially those in developing countries for instance china are unable to access the needed external funds for growth.

According to Mogaka (2017) describe MSEs as a key income source for numerous Economies particularly less developed countries (LDCs). Additionally, MSEs create

employment opportunity, advocates for creativity and also acts as source of income for government. Although MSEs play an essential role in growth of the economy and employment, the MSEs in developing countries face a financial gap (Beck & Demirguc-Kunt, 2006), and success. Abdesamed and Wahab (2014) argue that although 96% of enterprises in Libya are MSEs, their contribution to gross domestic product (GDP) growth is little at only 4%.

MSEs in Kenya have played big part in development of the economy. MSEs are the key source of job opportunities for both the skilled and unskilled workers as well as a supply of income for the country. Kinyua (2014) asserts that MSE play an essential role in regards to innovation, entrepreneur skills and employment. The (KIPPRA, 2012) asserts that because of the low capital requirement in business start-up, there is potential of reducing poverty through MSEs sector. According to Matiri (2019), the MSE sector accounted for 79.8% of all new jobs generated in 2011. As a result, Kenya's development plans, such as Vision 2030, have placed a unique focus on the role of MSE in creating jobs in the country (Matias & Serrasqueiro, 2017).

1.1.1 Micro and small enterprises

MSEs refer to business unit(s) with between 1 to 50 employees, whose annual turnover never exceeds 5 million. For enterprises in the manufacturing sector, the investment in plant, equipment, machinery and registered capital should not exceed 50million (Kushnir, 2010). MSEs are a diverse collection of companies that typically operate in the service, commerce, agriculture, and manufacturing industries. Because of their sheer numbers, MSEs are a vital source of jobs. Karadag, (2015) also states that MSEs are recognized as drivers of social-economic development, in developed as well as developing economies because of their essential role in innovation, creation of new jobs, entrepreneurship and rise in GDP.

MSEs are important because of their entrepreneurial spirit and adaptability, according to Ritchie and Brindley (2005). MSEs, however, are widely regarded as the engines of economic growth and innovation, and they are critical for nurturing productivity (Levy & Powell 2005). Their knowledge enables them to improve on the product or process, allowing them to gain a competitive advantage and increase profits (Koskei, 2019). Although many MSEs are diverse, creative, and focused on growth, others are contented to stay small and family-owned. The total number of MSEs in the economy is determined by the development and destruction rates of MSEs. When markets are profitable, the opportunities that result increase the rate of creating MSEs. This increases total number of MSEs within the country, resulting in more jobs and higher per capita income (Koskei, 2019).

In Kenya, according to the 2017 Economic Survey about 7.5 million Kenya MSEs contribute approximately 40% to the Kenyan GDP (Mahboub, 2018). Both the government and other development partners in Kenya have paid close attention to the role of MSEs in economic development and poverty reduction. MSEs are found in all sectors of the Kenyan economy, and the government recognizes them as one of the most important pillars of the country's economic development (Machii & Kyalo, 2016). More recently, the government has concentrated on assisting MSEs by creating funding support structures such as the Youth Enterprise Fund and the Women Development Fund, which, in addition to offering financial assistance, also provide training and guidance to the recipients (Osoro & Muturi, 2013).

1.1.2 Financial performance

Financial performance refers to a company's ability to raise and allocate funds over a specific time span, as determined by capital adequacy, liquidity, solvency, productivity, leverage, and profitability. The capacity of an organization to handle and monitor its own capital is

referred to as financial performance. Cash flow, balance sheet, profit-loss, and capital change can also be used as a basis for corporate decision-making by the managers (Mahboub, 2018). Harelimana (2017) asserts that financial performance shows firm's financial conditions in a given period and also can as well be employed on contrast connected companies in similar contrast sectors or business.

Financial performance denotes the firm's ability to manage strategies and important decisions to achieve its objectives, goals and obtain high returns (Makau, VanLeeuwen & Wichtel, 2018). Financial strengths of MSE's are important for its success. Financial capital is required by a firm to start, operate or grow and it is important to have adequate level of finance. In the contribution of a country's development, economic wise MSEs contribute a lot as its part of the economic system. Therefore, the financial performance of MSEs is very important as it also boosts the living standards of people at large. In order to evaluate the internal performance of a MSES, various measures and ratios are used. Key financial ratios that are calculated to assess performance of firms include ROA and ROE (Harelimana, 2017)

1.1.3 Factors influencing MSEs financial performance

The MSEs sector is faced with numerous constraints, the most critical being financial access. Most MSE's have maintained financing through retained business profits as their number one option in financing their businesses. Other financing sources include but not limited to family and friends, mobile money, SACCOs, banks, shylocks and personal savings (Matias & Serrasqueiro, 2017). Matiri (2019) stated that, finance play an essential role in small business survival and growth, and lack of which is major cause of failure of such type of business. According to Mugambi (2019), provision of credit to MSEs was discovered to greatly influence growth and development of MSEs. Morwabe and Muturi (2019) further noted that if poor

are given a chance to improve or start a viable business and also to become active economically they can be reliable borrowers.

The commitment of funds for a given period to receive future payments that reimburse investor for the period the funds are committed, estimated rate of inflation, and future payments' uncertainty is referred to as investment. Muiruri and Wepukhulu (2018) state that making investment decision is one of the most difficult organizational decision making process thus MSEs Operators should consistently analyze the decisions made by investment that make enhance their performance. Mugambi (2019) states that since numerous factors that lead to failure of the business can be tackled using strategies as well as financial decisions that encourage growth and attainment of organizational goals, therefore the significance of investment decisions on profitability of MSEs Cannot be overstated.

Technological innovation is inevitable for MSEs which desire to gain access into new markets and to develop as well as maintain competitive advantage. Innovation is essential for survival and development of MSEs. Since MSEs Aid substantially to economic as well as industrial advancement in most countries, it then becomes crucial to put in place a policy mechanism that will facilitate their growth. Use of advanced process technology for instance, usually results in a better product quality and durability. Savings in energy, materials or the substitution of traditional materials with less expensive alternatives are all common ways for technology to help reduce costs. Technological innovation is used strategically to give businesses a competitive advantage and to help them enter new markets (Becheikh et al 2006).

1.1.4 Profile of Agricultural MSEs located in Kiambu, Kenya

Kiambu County is one of Kenya's largest counties, covering 2,543 square kilometers and home to 1,623,282 people. Its main economic activities include farming, food processing,

manufacturing particularly in mining, leather, textile, motor vehicle assembly, and general trade. The agricultural sector is one of the sectors with the ability to investment. This sector includes horticulture, dairy as well as fish farming, all of which present opportunities for Kiambu County to expand. This industry is expected to employ 100,000 people and produce annual exports of 100 billion shillings (Musau, 2016). Owing to lack of suitable collateral for instance land title deeds, and high interest rates, as well as strict financial institution standards, there is a lack of access to credit. The county has few financial institutions that provide agricultural loans and the majority of farmers are unable to access the high interest rates charged on loans by county's few MFIs (Mutinda *et al.*, 2020).

In most developing countries, including Kenya, the agricultural sector makes a significant contribution to jobs, income generation, gross domestic product, foreign exchange earnings, and food security. The sector is critical to the rural economy and overall economic growth (Mwashiyua & Mbamba, 2020). Investment on agriculture by countries is essential because it is core to every nation's development. MSEs cut throughout the sectors of an economy (basic production, services as well as manufacturing,) and can take the form of ownership: partnerships, sole proprietorship, or private limited companies. 51 percent of Kenya's GDP comes from agricultural sector (World Bank, 2018). 70% of rural population make a living from agricultural activities while 40 percent of total population is employed in agricultural sector (Mwewa, 2013). The sector is dominated by smallholder production on farms of between 0.2 and 3 hectares, which account for 78 percent of total agricultural production and 70 percent of commercial production (Newman, 2012).

1.2 Statement of the Problem

MSEs are acknowledged as drivers of social economic development in developed as well as developing economies because of their essential role in entrepreneurship, creation of new jobs, innovation and rise in GDP (Karadagi, 2015). MSEs in Kenya are an essential part of the economy since MSEs directly employs more than half of the Kenyan work force (Mwewa, 2013). However, despite the potential of MSEs in Kenya to facilitate and foster growth, statistics indicate that most Kenyan MSEs never celebrate their fifth birthday due to myriad of financial constraints which affect their financial performance. Thaimuta et al (2014) indicated that in developing and also developed countries, rate of MSEs Failure is high: 33 percent to 41 percent of new MSEs fail within first 5 years of operation. According to Kilonzo and Ouma (2015), though MSEs are making positive contributions to economic development and growth in Kenya, the rate of failure is high.

For the last five years, starting the year 2016 to 2020, the profitability of micro and small enterprises in dairy sector in Kiambu County has been decreasing and the cost of managing the farms has been increasing. Odero-Waitituh (2019) indicates that the high cost of labor and animal feeds negatively affects the total earnings in dairy farms in Kiambu County. In addition, the Kenya Dairy Board (2019) reported that the prices of milk decreased by 46% from Ksh. 39 to Ksh. 21. The decrease in prices of milk and increase in cost of milk production led to decrease in profitability. This has necessitated the use of financing decisions, investment decisions and technology adoption.

Studies in Kenya also acknowledge that MSEs face various challenges. For instance, Githaiga and Kabiru (2015) examined the relationship between debt financing and financial performance of micro and small enterprises and found that long term and short-term loans adversely affect

MSEs financial performance. Further, Kamunge, Njeru and Tirimba (2014) examined the determinants of performance of micro and small enterprises in Limuru town market of Kiambu County and noted that lack of access to finance is nearly universally indicated as major problem to MSEs' performance. Nyanumba et al (2015) examined the association between loan interest rate and performance of micro and small enterprises and established that there exists statistically significant negative effect of interest on MSEs' performance in Lurambi sub- County Kenya.

However, the three studies were conducted in the urban centers among retail shops, but the current study was conducted in the rural areas among dairy enterprises. Also, these studies only focused on the issue of access to finance and hence did not show how other determinants like technology adoption and investment decisions affect performance of MSEs. Also, from the reviewed past studies none of the locals has focused on the determinants of MSEs financial performance in agricultural sector in Kiambu County and specifically in the dairy sector. For this reason, the current study sought to evaluate and close the gap by providing empirical evidence on determinants of financial performance of micro and small enterprises in the dairy sector within Kiambu County.

1.3 Research Objectives

1.3.1 General Objective

The General objective was to evaluate the determinants of financial performance of small and Medium enterprises in dairy sector within Kiambu County, Kenya

1.3.2 Specific Objectives

- i. To examine the effect of financing decisions on financial performance of MSEs in dairy sector in Kiambu County, Kenya

- ii. To evaluate effect of investment decisions on financial performance MSEs in dairy sector in Kiambu County, Kenya
- iii. To assess effect of technology adoption on financial performance of MSEs in dairy sector in Kiambu County, Kenya

1.4. Hypothesis of the Study

The research was guided by below null hypothesis;

- i. H_0 . Financing decisions have no significant effect on financial performance of MSEs in dairy sector in Kiambu County, Kenya
- ii. H_0 : Investment decisions have no significant effect financial performance of MSEs in dairy sector in Kiambu County, Kenya
- iii. H_0 : Technology adoption has insignificant effect on financial performance of MSEs in dairy sector in Kiambu County, Kenya

1.5 Significance of the Study

The findings of this research may be of great important to the County Government of Kiambu, MSEs, financial institutions and scholars.

1.5.1 County Government of Kiambu

This study suggests that determinants of financial performance contribute to the performance of micro as well as small enterprises in agricultural sector. Governments establish many regulations and policies that guide businesses. Some rules, like minimum wage, are mandatory, while other policies may influence your business indirectly. Businesses need to be flexible enough to respond to changing rules and policies. The findings may be beneficial to the

County Government of Kiambu and the Government of Kenya in making favorable decisions towards micro as well as small enterprises.

1.5.2 MSEs

The study may also help the stakeholders in micro and small enterprises with sound knowledge on investment decisions for proper planning with an aim of enhancing financial profitability. Technological adoption findings will benefit MSEs and County government in embracing the new ways of business management such as value addition and e-marketing hence becoming more competitive.

1.5.3 Financial Institutions

The findings of this research will be of great significance to management of financial institutions in Kenya as it will give information that they can use in credit appraisal of dairy farmers. The main source of capital for micro and small enterprises are the financial institutions such as banks, Saccos, Chamas family and friends, with this study the financial institutions shall understand the impact they have on micro as well as small enterprises.

1.5.4 Scholars

The study further adds information to body of knowledge on determinants of financial performance of micro and small enterprises in dairy sector. To scholars conducted related study, the study provides information that can be used as research material as well as in identification of research gaps. Additionally, the study provides a basis for further research on determinants of financial performance of micro and small enterprises in dairy sector in other parts of Kenya

1.6 Scope of the Study

This research sought to assess the determining factors of financial performance of MSEs' in the dairy sector in Kiambu County. The study focused on financing decisions, investment decisions and technology adoption. The study was carried out in Kiambu County and data was gathered using questionnaires from the micro and small enterprises managers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews past literature on the determinant of the financial performance of micro and small enterprises. It includes empirical and theoretical review, determining factors of financial performance, summary of literature Review and finally a conceptual framework.

2.2 Theoretical Framework

The study was guided by four theories: the pecking order theory to explain financing decisions, the behavioral finance theory to explain investment decisions and the innovation theory as well as the diffusion of innovation theory to explain innovation and technology.

2.2.1 *Pecking* order theory

Myers and Majluf developed the Pecking Order theory (1984). Companies prefer internal funding over external funding, according to this theory. When a company requires external financing, it would prefer debt over equity and will only use equity being the last choice. As a result of the information asymmetry, firms lack a pre-determined or optimal debt-to-equity ratio. When it comes to dividend, firms employ traditional tactics as well as debt funding, to increase the firm's value. According to the theory, companies have a preferred order for raising capital to finance their operations. Because of the knowledge gap between the company and potential buyers, the company would choose short-term debt over long-term debt, debt over equity, and retained earnings over debt.

According to the pecking order theory, the most favored (cheaper) method of raising capital is internally produced funds, followed by debt and finally new equity is issued only as

last resort. However, Myers and Majluf (1984) showed that since managers have full knowledge not only on the firm's current state but also on future investments under consideration, depending on internally created capital to fund investment opportunities is preferable to all other external finance alternatives. Furthermore, Myers and Majluf (1984) demonstrated that if a company has to raise capital externally due to a lack of internally generated funds, debt rather than equity is the best option because debt is not information sensitive (Farinha & Prego, 2013).

This study utilized the pecking order theory to show the influence of financing decisions on the performance of MSEs in the dairy sector. MSEs' financing is inclined to follow a pecking order of choice from which they prefer to use debt finance to equity finance because of fear of loss of control. Matias and Serrasquero (2016) discovered that MSEs financing decisions normally follow pecking Order theory predictions in case of decision on debt financing if firms do not yield sufficient capital internally (Enman, 2013). Considering that, various studies conclude that MSEs financing decisions are in accordance with the predictions of pecking order theory, it could be expected that, when internal cash flow is insufficient MSEs with higher levels of investment depend on debt to fund their investment needs, and thus debt may be a determinant factor of small firms' investment (Pacheco, 2017).

2.2.2 Behavioral finance theory

Behavioral finance, according Machii and Kyalo (2016), is "the study of how humans view and act on knowledge in order to make rational investment decisions." The rise of behavioural finance has opened up a new realm for studying how investors make investments decisions, including psychological considerations, as well as new grounds for challenging traditional methods of modeling determinants of investor behavior. According to Brabazon (2000), the finite dimensions of behavioral finance can be divided into two classification classes.

The first is heuristic decision processes (common sense rule), in which an individual investor will make decisions that are not rational according to the standard finance model due to instinctive psychological processes.

These decision processes, according to Brabazon (2000), are those by which humans try to make mental "short cuts." These shortcuts have been critical to the human race's survival, especially when decision-making time is restricted. In this case, decision-makers prefer to make decisions based on trends that aren't always important or even obvious (Brabazon, 2000). Moreover, they will believe that recent price trend will undoubtedly continue in the future. Individual investors may be tempted to pay much consideration to popular stocks that recently have performed well as a result of this.

Nofsinger(2016) discusses how this psychological aspect influences individual investor decisions, claiming that regret aversion causes "disposition effect," in which investors sell good that are well performing too fast and retain stocks that are poorly performing for too long. If everyone else thinks a common stock is a good one, regret aversion can lead to what is known as herding investing. The failure would be discussed with the other investors who had expected it to succeed as well. Statman (1999) clarified that being duped into making investment decisions based on this flawed theory of small numbers is something that a standard finance investor will never do; that an investor using past stock performance as proof of potential returns is plausible possibility, which goes against standard finance paradigm of investor.

In this study, the behavioral finance theory supports that behavioral components have a direct or indirect impact on investment decision of MSEs which consequently affects the performance of MSEs. Investment decisions including expansion, replacement and renewals are made when an investor beliefs that that they can improve their profitability and growth. Farmers

will expand their livestock projects in terms of number of cows so as to ensure economics of scale and improve performance.

2.2.3 Innovation theory

Creation or adoption, assimilation, and utilization of a value-added novelty in the economic and social spheres; renewal and expansion of goods, services, and markets; invention of new production methods; and establishment of new management systems are all examples of innovation. It is both a method and a result. The distinction between administrative and technological advances was made by Daft (1978) The distinction between radical and incremental innovation is highlighted by Ettlie, Bridges, and O Keefe (1984) and North and Toker (1987). In terms of innovation typology, Damanpour (1991) distinguishes three forms of innovation: administrative innovation versus technological innovation, method innovation versus product innovation, and radical innovation versus incremental innovation. In the manufacturing process, technological advances apply to goods, facilities, and technologies. They are concerned with an organization's fundamental activities and are focused on a product or process. A high degree of professionalism, low formalization, and low centralization promote this type of innovation. Organizational structure and institutional procedures are among the administrative developments. These technologies are linked to the organization's basic operations in an indirect way and to the management of those activities in a direct way (Damanpour & Evan, 1984). Low levels of professionalism, high formalization, and high centralization foster administrative creativity. New products or services launched to meet consumer demands are referred to as product innovations. Customers benefit from such advances, which are embodied in new goods or services on the market (Utterback & Abernathy, 1975). Process developments are new

elements that are incorporated into the different procedures that are carried out at the organizational level. (Nofsinger2016)

The process and adoption of product developments vary depending on the stage of an organization's growth. The fundamental re-conceptualization of a market is an example of radical innovation (Markides, 1998). This form of innovation can be approached on three levels: product (new concepts or technology), process (new ways of delivering products and services to customers), and a combination of the two). Improvements to goods, services, and existing procedures are referred to as incremental innovation. Architectural innovation is a type of innovation that alters only a product's architecture without affecting its components. The distinction between a product as a device and a product as a collection of components calls into question the notion that good product creation necessitates the application of two forms of knowledge: knowledge of the product's components and knowledge of the product architecture, or how those components are incorporated and connected to form a cohesive whole. The essence of architectural creativity is the reorganization of an established structure by reintegrating existing components in new ways to form a cohesive whole (KIPPRA, 2012).

Innovation theory was used in the study to show the effect of technology adoption on the performance of micro and small enterprises in the dairy sector. The theory indicates that creation or adoption, assimilation, and utilization of a value-added novelty in the economic and social spheres leads to an improvement in efficiency and effectiveness of micro and small enterprises. In addition, technology adoption leads to renewal and expansion of goods, services, and markets and well as invention of new production methods.

2.2.4 Diffusion of innovation theory

Rogers (1962) founded the DOI Theory, which is one of the oldest social science theories. It was first used in communication to describe how an idea or commodity gains traction and diffuses (or spreads) through a population or social structure over time (Newman, 2012). The end result of this diffusion is that people follow a new concept, action, or product as part of a social structure. Adoption entails a person doing something different from what they previously did (purchase or use a new product, acquire and perform a new behavior) (Njiru & Mwikamba, 2020). Adoption depends on the person's perception of the concept, action, or product as novel or creative. Diffusion is possible as a result of this. In social structure, adoption of new concept, action, or product (i.e., "innovation") does not take place at the same time; instead, it is a mechanism in which certain people are likely to embrace innovation than others.

Researchers discovered that companies who implement a new technology early on have diverse characteristics compared to those who adopt it later. Innovators, Early Adopters, Early Majority, Late Majority, and Laggards are five separate adopter groups explained by this theory. People who want to be the first to try a new idea are called innovators. They are daring and curious about new concepts. These people are also the first to create new ideas and are willing to take risks. These people are also the first to create new ideas and are willing to take risks. People who represent opinion leaders are known as early adopters. They enjoy taking on leadership positions and are open to new experiences. They are well aware of the need for improvement and are also open to new ideas. How-to guides and information sheets on implementation are examples of strategies to cater to this population (Odero-Waitituh, 2019). They do not need facts to change their minds. While the Early Majority is rarely leaders, they do follow new ideas ahead of the general public. Before they are capable of executing an invention, they require evidence

that it works. Success stories and proof of the innovation's efficacy are two strategies for appealing to this population (Ogilo & Makayoto, 2019). The Late Majority is wary of change and will only accept an idea after the majority has attempted it. Knowledge about how many other people have tried the innovation and successfully followed it is one strategy for appealing to this population. Laggards are tradition-bound and traditional. They are the most resistant to change and the most difficult to persuade. Statistics, anxiety appeals, and pressure from other adopter groups are all used to cater to this demographic.

Diffusion of innovation theory was used in the study to show the effect of technology adoption on the performance of micro and small enterprises in the dairy sector. The theory describes how technology and innovations gain momentum and diffuse, over time, through a specific population or an organization. The theory indicates that the adoption of information technology in an organization depends on relative advantage, compatibility, complexity, triability and observability.

2.3 Empirical Review

This section entails an empirical overview of financing decisions, investment decisions and technology adoption and their interrelationship with MSEs financial performance based on previous research studies conducted by various scholars.

2.3.1 Financing decisions and financial performance

Financial decisions entail the decisions of the mix between debt and equity. Debt is money lent from a financial institution at a fixed interest rate and expected to be paid back for a set duration. It is important for a company to maintain reasonable debt-to-equity ratio. Distribution of debt and equity in firm's funding is at heart of firm's leverage decisions. Focus

on long-term financing and possible negative implications when it's scarce is at odds with current theoretical contributions that argue that using short-term debt is correlated with performing businesses and might have reward properties. Threat of premature liquidation, in particular, can serve as a motivator to improve a company's efficiency. Centered on the mediation of diversification, Xu, Ou, and Chan (2016) investigated the relationship between debt financing and operating efficiency. The research included 52 agricultural companies that were listed on Chinese stock exchanges between 2009 and 2014. The majority of the data came from the Wind database and the financial statements of the companies on the list. Debt financing has a substantial negative effect on operating performance, according to the findings, and diversification serves as partial mediator between debt financing and operating performance.

In Vietnam, Thi-Doana (2020) carried out a study to assess whether financing decision influences the firm performance. The researcher used data from 102 non-financial firms quoted in the 2008-2018 period in HOSE. The research only covered the firms listed before 2008 and the end of 2018. Firm performance in this study, was measured by use of ROA. Study findings revealed that performance of a firm is significantly related to financing decision. Moreover, findings confirm that firm performance decreases with increase in use of debt.

Hasan, Mohammad and Elizabeth (2011) evaluated impact of financing decision on firms' performance in absence of taxes. Moreover, data deployed in this study was obtained from different resources such as Reuters, Kuwait Stock Exchange (KSE), and worldwide investment house as well EMIS database. Moreover, data set composed of all firms that were traded publicly and quoted at KSE for duration between 2000 and 2008. The study assessed the effect of industrial sectors as well as financial performance by use of panel data of eighty listed companies in Kuwait. Moreover, sample collected for this research had 14 sectors, comprising of

non-financial as well as financial companies. Additionally, information for variables linked to accounting were gathered as well as computed from yearly financial statements, such as income statements and balance sheets, for each listed firm located in Kuwait. The study found negative correlation between level of debt and financial performance which can be as a result of high borrowing cost and underdeveloped nature of Kuwait debt market. Findings also revealed that with both accounting measure of performance, short-term debt has significant negative association, while there is no effect of long-term influence.

In Pakistan, Ashrafa, Iqbalb and Tariqc (2017) evaluated the effect of financing decisions and corporate governance on performance of cement industry quoted in KSE. Research data were collected from yearly reports of Cement Company situated in Pakistan. Moreover, multiple regression analysis was employed in estimating effect of financing decisions and corporate governance on firm performance measured by ROA, EPS, ROE as well as net profit margin (NPM) by use of a sample of nineteen cement companies quoted for the period 2006-2016 in Karachi Stock Exchange (KSE) as well as E-views technique employed to apply regression and correlation analysis. Results of this study revealed that corporate financing decision and corporate governance influences the financial performance of cement industry located in Pakistan.

In Bursa Malaysia, Daud, Norwani, Mansor and Endut (2016) assessed whether financing decision influences the performance among Malaysian public quoted firms. The research also assessed the association between selection of capital structure and performance special focus being the firms that execute industrial diversification strategy. Moreover, this research consisted of 76 firms and covering balanced panel data series for duration of 1994-2007. Different sources of secondary data were employed for gathering information such as from Thomson Financial

Banker, World scope, Data Stream databases as well as Bursa Malaysia's library. The study period covered the 1994 to 2007. The study observed that capitals structure has insignificant association with performance.

In Pakistan, Khan et al (2017) analyzed the effect of financing decisions on financial performance of firms quoted in KSE. Data on these firms was obtained from published on the site of Pakistan State Bank and balance sheet analysis. The firms selected are from diverse industrial sector in Pakistan such as sugar, cement, textile, engineering, tobacco, oil, telecom as well as gas chemical. The OLS was deployed on a study sample of selected one hundred Pakistan quoted firms in KSE (with six hundred observations) over duration of 2004 to 2009. Debt to equity was used to measure financing decisions and firm's performance measured by use of Tobin's Q, ROE, market capitalization and ROA. Study findings revealed that in Pakistan, financing decisions have insignificant effect on firm's performance.

In Jordan, Shah wan (2018) assessed mediating effects of financing as well as investment decisions on the impact of capital structure towards general performance of quoted commercial banks. Moreover, unit of analysis that was considered in this research was all Commercial Banks quoted at ASE and that continually published their yearly financial statements for sixteen years (2002–2017) and also their yearly financial report was employed as research data. The researcher employed descriptive research design. The data deployed in this research were secondary data collected from ASE financial statements. Moreover, data deployed was obtained from income statements and balance sheets as financial year that ended at 31st December of entire period being investigated. From 15 commercial banks quoted in ASE third quarter reports in 2017, thirteen commercial banks were employed as study population. Moreover, yearly financial statements of the banks were obtained from selected banks portal, internet and Central Bank

portal of Jordan (CBJ). The study revealed that financing decisions have moderately mediated the influence of capital structure on business performance in quoted commercial banks in Jordan.

Chin dime (2018) studied effect of the function of in – kind credit on productivity of milk among smallholder dairy farmers situated in Malawi - a case study of Mzuzu and Lilongwe milk shed areas. Moreover, the study was conducted in two phases namely, cross-sectional survey and observational study. The cross-sectional survey involved the use of structured questionnaire administered to 305 randomly selected dairy farmers. Observational study involved 60 farmers for duration of six months from February to July 2017. Findings indicated that milk production of farmers who had obtained in-kind credit and credit from financial institutions had improved over the years as compared to those who had not obtained any credit from financial institutions. Furthermore, productive parameters (technologies used) such as breed of cow used, method of breeding, feeds (supplementation and improved forage), method of grazing, housing and drug availability were all significantly influenced by borrowing status. However the production function indicated that forage, concentrates and water which forms part of the in-kind credit had a statistically significant positive relationship to milk output

Olaifa (2018) evaluated whether financial decisions influences performance of Nigerian commercial banks using four indices of performance. Both secondary and primary data were used. The targeted 20 commercial banks that were in operation during 2000-2013 period constituted the study's sampling frame. Panel regression model was employed to analyze data in order to assess the influence of financial decisions on performance of Nigerian commercial banks. Study findings revealed that the main financial decision that is of paramount importance to the commercial banks located in Nigeria is the investment decision. Also, finance decision of the banks has potential to reduce the profit of the banks if not addressed.

Kwaning et al. (2015) investigated the challenges that MSEs face in obtaining loans, the challenges that financial institutions face in lending to MSEs, and effect of loans on MSEs' profitability in Ghana. The research was conducted over a three-month period (June–August 2014). In addition, the thesis used both exploratory and descriptive research methods. The study's participants were 100 Ghanaian MSEs and banks. The information gathered was also from primary sources, such as questionnaires and interviews. Self-administered questionnaires with open-ended as well as closed-ended questions were employed. The study discovered that interest rates on loans to MSEs are extremely high, repayment periods on loans to MSEs are too low, making it difficult to embark on any developmental project and most MSEs lack understanding of terms and conditions, as well as the interpretation of percentage paid on loans. Furthermore, the study discovered that when applying for a loan from a financial institution, small business owners often provide false details.

In Kenya, Tipape and Jagongo (2019) conducted a study to determine whether financial decisions influence performance of businesses owned by families in manufacturing companies. The study population comprised all 853 businesses owned by families which have been registered under KAM. Moreover, stratified sampling was employed to choose 255 businesses owned by families. Moreover, the study deployed secondary as well as primary data. Moreover, primary data was gathered by use of questionnaires. The study was conducted for a span of five years (2011-2015). Further, secondary data was derived from FOB manufacturing companies' audited financial reports. Availability of adequate human and financial resources is of great significance for family firm's growth as well as survival. The financing decisions as well as investment decisions are fundamental financial decisions that affect financial performance of a firm.

The relationship between capital structure and financial performance of private firms in Kenya was investigated by Koskei (2019). A cross-section survey research design was used in this study. Six sugar companies were targeted. The study based its findings on a census of 6 private sugar companies that have been operating between 2010 and 2015. It was based on secondary data obtained via a secondary data collection schedule from the participating firms' published accounts. Results revealed that debt to equity ratio and debt ratio had a significant impact on financial performance.

Auma and Muturi (2017) examined the factors hindering effectiveness of bank credit in boosting the MSEs performance in Kenya in terms of credit terms, loan utilization and managerial competencies. Descriptive survey design was used and the research was carried out between July and September 2016. The study targeted 1527 MSEs within Kisumu city from which 316 were sampled using proportionate sampling. A structured questionnaire and document analysis were employed to collect data. Results discovered that credit terms was the most important predictor of MSEs performance and were also the most significant challenge in the utilization of commercial banks loan since majority of the MSEs found credit terms offered were unfavorable. Moreover, the study found that MSEs' credit constrains severely affects their possibility to grow and innovate.

Njiru and Mwikamba (2020) investigated the factors affecting small-scale dairy farmers' access to agricultural credit in Kiambu County's Githunguri Sub-Location. The aim of this study was to see how collateral availability, farmer farm management skills, and credit interest rates influenced small-scale dairy farmers' (SDFs) access to credit. . The descriptive research design was employed, with Githunguri Sub-location serving as study's specific location. Simple random sampling was used to select the study sample size of 100 respondents. Personal interviews and

self-administered questionnaires were employed to acquire primary data. Moreover, the study was carried out between January and August 2019. The study discovered that accessing to agricultural credit had significant effect on milk product and financial performance of small scale dairy farms. The accessibility of credit from financial institutions was influenced by the management skills of the farmers, interest rates and collateral availability among small scale dairy farmers.

Wangui (2013) conducted a research on the source of agricultural credit among small-scale dairy farmers located in Githunguri Division within Kiambu County. The research was conducted for a span period of two months (March to April 2012) and used descriptive survey design. Primary data was collected from 347 farmers that were randomly chosen by use of a structured questionnaire. The results indicated that farmers' choice on source of credit was greatly influenced by credit attributes and farmer characteristics. The main sources of credit among dairy farmers were Donor led rural finance, cooperative societies, commercial banks, and community owned rural finance. Agricultural credit from these sources was categorized into short term credit as well as long term credit.

Ikapel and Kajirwa (2017) investigated the effect of long-term debt on the financial performance of state-owned sugar companies in Kenya. The study was took place from May to August 2015. The research was conducted using a retrospective research design. The Pearson product moment correlation coefficient was used to test for the relationship between the dependent variable (ROA) and the independent variable, long term debt, in SPSS version 20.0. To find important predictors of ROA while controlling for confounders, simple linear regression model was employed. The findings showed a significant negative relationship between long-term borrowing and financial performance.

Koroti (2014) assessed the influence of investing as well as financing decisions on Kenyan sugar companies' financial performance. The researcher deployed non-probability sampling technique, in which 4 factories were selected from entire population of 11 companies which were in operation in Kenya as at 31st December year 2013. Moreover, this study was descriptive that assessed impact of financing decision and investing decision on financial performance as measured by ROA. Moreover, secondary data acquired from financial position statement as well as comprehensive income statement for duration of 5 financial years was then analyzed by use of regression analysis obtained by use of Minitab statistical analysis device. Study findings found negative influence of financing decision on Kenyan sugar companies' financial performance.

In Kenya, Mogaka (2017) carried out a research to evaluate whether short-term financing decisions influences financial performance of various non-financial firms quoted at NSE. Research employed explanatory research design. Further, the researcher employed census of twenty six non-financial firms quoted at NSE. Moreover, researcher deployed panel data obtained from financial statements and yearly reports of non-financial firms extracted from handbooks, company websites and capital markets authority library for duration between 2001 and 2014. Findings revealed that inventory turnover decisions influences measures of financial performance positively. The research also found that cash holding has significant positive influence on association between short-term financing decisions and non-financial firms' financial performance at NSE. Moreover, results revealed that relations between components of short-term financing decision had significant impact on financial performance. Lastly, results revealed that association between short-term financing decisions and firms'

financial performance when employing Tobin-Q and return on assets is moderated by firm attributes.

In Kenya, Mwangi (2014) evaluated influence of financing decisions on non-financial companies' performance quoted at NSE. This study further examined the interaction influence of different components of financing decisions on non-financial companies' performance listed at NSE. Additionally, the researcher deployed explanatory non-experimental research design. Moreover, census of 42 non-financial companies quoted in NSE was employed. Further, researcher employed secondary panel data included in financial statements and yearly reports of non-financial companies. Research data were obtained from NSE hand books for duration of 2006-2012. Findings revealed that interaction between components of financing decision had positive influence on firms' performance.

Njenga (2014) assessed the association between financial decisions and firms' profitability of manufacturing companies quoted at NSE. Additionally, the research adopted descriptive survey design to explain the association of study variables to support the findings. Moreover, the research data that was assessed for this research was secondary data derived from Kenya capital markets as well as KAM. Data was gathered for duration of three years, 2011 to 2013 was collected. The study population was from manufacturing firms listed at NSE Market. Moreover, the researcher used random sampling as well as purposive technique to select study sample from 9 manufacturing companies listed at NSE. Results showed insignificant statistical association between financial decisions and profitability of manufacturing firms quoted at NSE.

Muiruri and Wepukhulu (2018) conducted a study with an aim of assessing the effect of financing decision on financial performance of quoted companies at NSE. Moreover, study targeted 66 listed firms at the NSE. Data spanning five years, 2012 to 2016 was collected. The

study findings discovered that capital structure has positive although insignificant effect on ROA although positive significant influence on ROE. Furthermore, liquidity decision has positive significant influence on ROE as well as ROA. Nevertheless, dividend decision has negative insignificant effect on both ROA as well as ROE. The researcher suggested that there is a need to revise the financing policies to incorporate financing with less equity and more debts since it improves the returns

2.3.2 Investment decisions and financial performance

Investment benefits can arise from cost reductions, expansion of sales of the existing products, expansion into new lines of business, risk reduction, or even contributions to the social benefits of the employees and the community (Levy & Sarnat, 1994). These policies are expressed in what are known as investments Within the Company and these investments add value to the firms and raise the wealth of the shareholders (Penman, 2010). The most significant finance feature in modern times is capital allocation efficiency. A bad investment decision could cause a company to lose money and eventually shut down.

Investment activities ought to be focused on creation and execution of projects that will help the company grow in the long run. Nonetheless, businesses that are able to adapt quickly to changes in their immediate and distant environments will be able to improve their competitive position (Pitkowski, 2020). Loredana (2011) argue out that the investment decision is focused on detailed and reliable information about the need, incentive, period of implementation and operation investments, expenditure volume as well as financial resources, fund input as well as output flows during investment operation, maintaining profitability and liquidity, and recovering invested capital.

In Poland, Piątkowski (2020) conducted research into the outcomes of MSE investment operations. The aim of this paper was to compare economic impact of executed investment practices in Maopolska province between 2007 and 2015, according to the owners of the surveyed businesses. The research was focused on a critical review of domestic and international literature, as well as quantitative and also qualitative interpretations of the findings of a CSAQ survey of 160 firms, which was supplemented by interviews with participants. A descriptive approach was used in conjunction with statistical analysis when presenting data. The survey took place between December 2016 and March 2017. Hypotheses were also tested using a multiple linear regression model (MLR). Findings indicate that engaging in investment activities, regardless of the source of investment funding, helps businesses achieve positive outcomes. The source of funding for the investment is not essential on the enterprise's outcomes.

In Portugal, Mendes, Serrasqueiro and Nunes (2014) examined the investment determinants of young and old Portuguese MSEs. The study used the SABI database, from Bureau van Dijks, for period 2000 and 2009. The research sample of this study composed two forms of MSEs: surviving MSEs and non-surviving MSEs. Empirical evidence helps one to conclude that determinants of investment have diverse effect on young and also old MSEs, depending on firm's level of investment, using the two-step estimation process and quantile regressions. The study found that cash flow and financial performance has greater effect on the young MSEs investment with low investment levels.

In their study, Pacheco (2017) examined the investment determining factors at firm level particularly for Portugal, focusing on industrial MSEs. The study examined MSEs pertaining to 21 industrial sectors, obtained from SABI which is a financial database financed by Bureau van Dijk. For the period 2011-2015, a panel data approach was used for an unbalanced sample of

2456 Portuguese manufacturing MSEs. According to the findings, MSEs with higher profitability, debt, and liquidity, as well as smaller scale, appear to have higher levels of investment.

In Indonesia, Santoso (2019) conducted a research to assess effect of funding and investment decision on firm value and financial performance. Moreover, the study targeted 41 firms from consumer goods sector and study sample of twenty eight companies were examined by the use of purposive sampling technique. The study sample was consumer goods sub-sector companies quoted before 2010 at ISE. Moreover, financial report data employed was financial report data obtained between 2010 and 2017. Fixed asset to total assets is the indicator that was used to measure asset structure. The results indicated that companies' asset structure in Indonesia consumption sector had positive effect on firm value and company performance.

Hussain et al. (2020) assessed effect of interest rate and investment decisions on financial performance of Pakistan Fuel and Energy Sector. The sample studied included 19 registered Pakistan businesses working in fuel and energy sector of Pakistan. First fuel and energy sector were undertaken to avoid erroneous findings. All selected firms are quoted at KSE. Additionally, selected study sample describes 6 years between 2013 and 2018 and that data was collected from Pakistan's State Bank Statistics Department. The study findings revealed that firms' performance is strengthening when they get away from work and debt based on equity of the owners.

In Indonesia, Hajering, Mahfudnurnajamuddin, Dani and Su'un (2018) conducted a research to examine impact of investment decisions, dividend policies and funding decisions on financial performance and value of various banking companies quoted in ISE. The study targeted 40 companies listed in a period between 2013 and 2015. The data employed in this research were secondary data gathered from selected external companies. Moreover, the number

of banks that were sampled during this research only included conventional bank. The data were then analyzed by employing Path Analysis Model with the assistance of AMOS program version 21. Findings showed that funding decisions as well as investment decisions have insignificant positive effect on financial performance and also have significant positive influence on value of a firm.

Setiyorini and Kartika (2015) examined the impact of firms' profitability as well as investment decisions on corporate value in various manufacturing firms quoted in ISE. The study targeted 4 companies quoted in ISE during the period between 2017 and 2018. These companies include Cement Indonesia (SMGR), Indocement Tungal Prakasa Tbk (IT), Holic Indonesia Tbk (SMCB and cement Stone King (SMBR). The study employed secondary data obtained from ISE official website. The study findings partially show that investment decisions (TAG) and profitability have significant positive impact on firm value.

In Jordan, shahwan (2018) assessed mediating impacts of financing and investment decisions on effect of capital structure towards general performance of quoted commercial banks. Moreover, unit of analysis that was considered in this research was all Commercial Banks quoted at ASE and that continually published financial statements for sixteen years between 2002 and 2017 and also their yearly financial report was employed as research data. The researcher employed descriptive research design. The data deployed in this research were secondary data collected from ASE. Moreover, data deployed was obtained from income statements and balance sheets as financial year that ended at 31st December of entire period being investigated. From 15 commercial banks quoted in ASE third quarter reports in 2017, thirteen commercial banks were employed as study population. Moreover, yearly financial reports were sourced from selected banks portal, internet and Central Bank portal of Jordan

(CBJ). The study revealed that financing decisions have moderately mediated the influence of capital structure on the performance of quoted banks in Jordan.

In Tanzania, Mayala, Katundu and Msuya (2017) assessed the SCFs influencing decisions on livestock investment among smallholder farmers within Bariadi and Mbulu districts. The study used cross-section survey design where 333 respondents as well as nine key informants were questioned. Structured questionnaires as well as key informant checklist were employed to gather primary data. Moreover, the study was carried out in year 2016 and the association between SCFs and livestock investment decisions was investigated using a binary logistic regression model (BLRM). The study found that small-scale dairy farmers in Tanzania were motivated to commit financial resources in their livestock and expect future returns (investment decisions). These decisions were bride prices, prestige, monthly revenue expected from the livestock.

Musau (2016) investigated the impact of investment decisions on financial performance of SACCOs. The researcher used an empirical study design for a ten-year time series data set from 2006 to 2015. The study was conducted on all twelve (12) SACCOS in Kitui Town, and respondents were chosen using a Census technique. Data was then analyzed using simple multivariate regression, and the correlation between variables was determined using Karl Pearson's correlation. SPSS-version 21 was employed to generate the study's findings. According to the results, replacement, renewal, research and development decisions all contributed positively to SACCO output while expansion decisions had negative impact. Expansion, restructuring, and research and development decisions, on the other hand, had positive impact on SACCO financial performance while replacement decision had negative effect.

Using cross-sectional survey design and target population of 380 farmers, Mutinda, Gathungu, Kibe and Wambua (2020) studied agripreneurs' investment in clean seed potato enterprises in Kenya highlands. This study was done in Nakuru County in 2019 and purposively selected from 13 potato-growing counties. The research was conducted via cross-sectional survey of 380 Agripreneurs. The data for study was collected through face-to-face interviews and also by using semi-structured questionnaire. STATA version 13 software was used to process the quantitative data. The study discovered that investment decisions had significant effect on potato production in highlands. The investments decisions were influenced by annual household income, cropping season and land size among others.

In Kenya, Musau (2014) examined the impact of investment decision on SACCOs' financial performance. Moreover, the researcher employed empirical study design for period of 10 years (2006-2015) and the study was carried out on 12 SACCOs situated within Kitui Town therefore employing census method to select the participants. Additionally, simple multivariate analysis was employed to analyze data, whereas Karl Pearson's correlation was employed in establishing the relationship between variables. Data presentation was done by use of tables. The findings of the study revealed that only research as well as development decision had significant influence on SACCO performance whereas expansion decision, research and development decision as well as replacement decision had insignificant influence on SACCO financial performance. Therefore, not all investment decisions influence Sacco's financial performance.

Mweresa and Muturi (2018) assessed the impact of investment decisions on financial performance of various public sugar companies' in western part of Kenya. Moreover, the study was carried out in 2017 and deployed survey design. Moreover, study population was six (6) sugar companies with 2,284 employees. The study sample size was 786 participants. The

researcher employed secondary as well as primary data obtained by use of questionnaires, then the research data was analyzed by use of inferential and descriptive statistics. Findings indicated that financial decisions influence financial performance of various public sugar companies in Western part of Kenya.

Kemuma (2014) assessed effect of investment decision on firms' performance quoted in NSE. Moreover, the researcher deployed descriptive research design. Additionally, the study population examined as at 31st December year 2013 was sixty one companies quoted at NSE, under key segment. Moreover, the study employed census method due to small number of non-financial firms in NSE. Moreover, inferential and descriptive statistics were employed to analyze data. Moreover, the researcher employed panel data which comprised of cross-sections and time series. Study findings discovered good, positive as well as significant associations between ROA and all study variables, i.e. financial leverage, investment decision as well as liquidity.

In Kenya, Morwabe and Muturi (2019) examined whether investment decisions influences financial performance of DTSACCOs in Nairobi County. Additionally, secondary data was obtained from SASRA as well as financial statements of particular DT-SACCOs for 5 years that is 2014-18, for a total of 43 DT-SACCOs. The independents study's variables included FOSA, Fixed Deposit Account, and government Securities as well as shares investment decisions. Financial performance was measured using ROA. Descriptive research design was employed during this study. Moreover, the population under study comprised 43 registered DT-SACCOs within Nairobi. Census design was used in all the 43 DT-SACCOs under study. The study revealed that model containing government securities, FOSA Activities, shares and fixed

deposit account as well as investment decisions had strong effect on changes in profitability of DT-SACCOs

In Kenya, Koroti (2014) examined the impact of financing as well as investing decisions on financial performance of sugar companies. The researcher employed non-probability sampling technique, in which 4 companies were selected from the entire population of 11 firms operating in Kenya as at 31st December year 2013. Moreover, this was a descriptive research that evaluated the influence of financing decision on financial performance as measured using ROA. Moreover, secondary data on statement of financial position as well as statement of comprehensive income for duration of 5 years was then analyzed by use of regression analysis. Moreover, the study indicated that investing decision positively influenced financial performance of sugar factories in Kenya.

In Kenya, Osoro, Nyang'au and Nyarige (2017) assessed whether investment decisions methods influences financial performance of MEs within Kisii town. Moreover, researcher employed descriptive research design. The researcher targeted 859 managers of ME within Kisii Town whereby researcher employed 10 percent of target population as study sample of eighty six managers. Moreover, study utilized questionnaire to gather data from study population. Moreover, the researcher administered the questionnaire via drop and pick technique. The finding found a significant association between internal rates of return. The study concluded that internal rate of return should be maintained as investment decision methods as it had effect on firms' financial performance.

Ariemba, Evusa and Muli (2016) examined the effect of investment decision on SACCOs financial performance located in Kitui Central Sub-County. Moreover, the researcher used empirical study design as well as time-series data obtained for over 10 years from 2006 to 2015.

Further, the study was performed on 12 SACCOS situated in Kitui Town hence employing census method to select the participants. Simple multivariate analysis was employed to analyze data, whereas Pearson's correlation was deployed in establishing the relationship of study variables. Results produced using data analysis workbook; SPSS-version 21. Findings revealed that research as well as development decision had significant influence on SACCO performance whilst expansion decision, renewal decision as well as replacement decision had none.

Onyiego (2019) investigated the determining factors of financial performance of MSEs in Tourism sector within Mombasa County and environs in Kenya. Moreover, study population of this research comprised all MSEs as licensed by Tourism Regulatory Authority in Mombasa County and environs up to 2016. Stratified random sampling method was employed in choosing sample size out of target population that constituted sample size to be interviewed for this research. The study used adopted primary as well as secondary data. Moreover, primary data was obtained by employing structured questionnaires whilst secondary data was extracted from tourism regulatory authority MSEs, annual reports and some published reports. The study employed descriptive research design. Moreover, questionnaire was complimented with the interview guide method of collecting data. The study discovered that cost of debt and access to credit had significant effect whereas debt financing and investment decisions have positive weak effect with financial performance of MSEs in tourism sector within Mombasa County.

Muiruri and Wepukhulu (2018) conducted a study to assess whether financing decision influences financial performance of distinct quoted firms at NSE. Moreover, the researcher targeted 66 listed firms at the NSE. Data spanning five years from 2012 to 2016 was obtained. Findings established that investment decision has significant positive influence on ROE as well as ROA. The study recommended that since investment decisions affect performance positively

and significantly, there is a need for the listed firms to invests highly in firm machinery, plants, equipment as well as property, in order to enhance returns.

Ogilo and Makayoto (2019) conducted a study with an aim of identifying relevant determining factors of investment decisions by Kenyan commercial banks as well as how they influenced financial performance. Moreover, the study considered interest rates, risk aversion, financial literacy and financial tools as determining factors of investment decisions, as well as return on average capital used as measure of firms' financial performance. Further, the researcher adopted descriptive research design. Study population comprised of Kenyan commercial banks which were 43 in number as at December 2016. Primary data was used for the study. Study findings revealed that banks are familiar with four determining factors of investment decisions and that all are put into consideration when making investment decisions. Although all determining factors were noted to be distributed fairly among banks, existence of financial literacy had distinctive distribution among lower tier banks apparently compromising stringent necessities otherwise put on determining factors by topmost tier banks. Further, all determinants were noted to have significant linear relationship with return on average capital that was deployed. The research found that determining factors of investment decisions are essential but do not completely determine the return on average capital deployed.

2.3.3 Technology adoption and financial performance

Technology adoption and usage promotes sustainability, growth and can facilitate business success. Various types of innovative developments are associated with diverse aspects of performance. Moreover, technological adoption is understood as an approach that provides a competitive edge to a firm by assisting in market diversification and generating new commercial opportunities.

In the last three decades, there has been a significant adoption of technology in the dairy farming sector all over the world. The most common technologies include Milking machines with automatic take-offs, computerized feeding system, automatic milking system, genetic selection technologies and artificial insemination. In the United States, Khanal, Gillespie and MacDonald (2010) examined the adoption of IT, management practices as well as production systems in US milk production. This research used data from 2000 and 2005 Agricultural Resource Management Survey (ARMS) dairy version, carried out by USDA National Agricultural Statistics Service (NASS) as well as Economic Research Service (ERS). 2000 and 2005 data sets included 870 as well as 1,814 observations, respectively. Study targeted 24 states in US. The findings indicated that adoption of IT leads to enhancement in milk production, which in turn improves the profitability of the farm.

El-Osta and Morehart (2013) evaluated the association between technology adoption and production performance of dairy operations in the United States using secondary data from an Agricultural Resource Management Study. The study took place in May 2013 and the researcher employed primary data which was sent to participants via uniform resource locator (URL). The findings indicated that adoption of technology had significant effect on production performance of small-scale dairy farmers, which in turn increase revenue and profitability of firms. In addition, technology adoption played a key role in the reduction of labor cost among other costs.

Kiyono (2019) conducted a study with an aim of identifying as well as analyzing the effect of commercial banks' adoption of various mobile banking technologies on financial performance of banks in 5 countries that embraced financial standards in ASEAN. Moreover, the study employed data obtained from 36 local commercial banks in the period between 2010 and 2017 in Singapore, Malaysia, Thailand, Philippines as well as Brunei Darussalam. The study

findings revealed that adoption of various mobile banking technologies by selected commercial banks had a positive effect on banks' fee income, consumer loans, operating costs, profitability and money market deposits. Moreover, the study revealed that its impacts were much greater for smaller bank located in Thailand and Philippines and financial standards found significant mediating impact on bank profitability for small banks as well as big banks within ASEAN.

Using a survey research design, Tawaf and Russanti (2015) examined the effect of appropriate use of technology on Smallholder dairy farm's revenue in Indonesia. From April 1 to June 30, 2015, this study was conducted among member's of dairy cooperatives and smallholder dairy farmers in Subang district. The survey was used to gather data from 30 respondents who were selected at random. As production factors affected dairy farm income, the Cobb Douglass analysis was deployed to assess the required technology. Findings indicated that the adoption of technology in construction of cow-shed, animal breeding and feeding management and animal feeds formulation had a significant influence on farm revenue.

Chen and Tsou (2006) investigated the effect of IT adoption to firm performance and to service innovation. In financial firms setting, research framework together with hypotheses were suggested as well as assessed. The study used descriptive research design and was conducted between August and December 2005. Moreover, empirical survey was carried out and questionnaires were sent via email to a total of 558 Taiwan financial companies. The structural equation modeling (SEM) method was employed to analyze collected data. Findings discovered that IT adoption has positive effect on service innovation which has positive influence on firm performance.

Mahboub (2018) assessed effect of ICT investments on Lebanese Banks' performance. Target population comprised of 50 Lebanese banks for the period between 2009 and 2016.

Additionally, secondary data were gathered from annual report of the banks under consideration. CAMELS model was selected as dependent study variable, whereas ICT investments (adoption of ATM, internet banking (IB), telephone banking (TB), point of sale (POS) terminals) mobile banking (MB), and debit and credit cards (BC) were used as independent variable. The study revealed that application ATM, TB, IB, as well as POS terminals significantly influence banks' performance. Nevertheless, MB application and providing BC to customers directly as well as significantly influences banks' performance.

Akanbi (2017) assessed the effectiveness of adopting ICT on various manufacturing companies quoted in Nigeria stock exchange. Further, the researcher used descriptive research design and was carried out between June and August 2016. The researcher employed stratified sampling method to select 76 participants from area under study. Moreover, the primary data was adopted and was gathered using a questionnaire. Furthermore, regression analysis model was employed to determine extent of association between study variables. Research findings indicated that over the years, the adoption of ICT in listed manufacturing companies has contributed highly to quality of service, effectiveness and customer contentment.

In Tanzania, Mwashuiya and Mbamba (2020) carried out a study to establish the effect of adopting ICT, MFIs operational performance as well as access of financial services. Moreover, the study was carried out in the period between 2018 and 2019. The questionnaires were deployed to obtain data from a total of 322 MFI's clients. The descriptive analysis was employed to analyze respondents' characteristics. Additionally, structured equation modelling was deployed to establish the multiple correlations among study variables. Results found that the adoption of ICT platforms reduce costs, improve communication as well as improve business processes and also supply financial provision via electronic means.

In Rwanda, Harelimana¹ (2017) examined the impact of ICT utilization on microfinance institutions' financial performance. The research was carried out for 5 years (2011 to 2015). Moreover, the researcher adopted descriptive survey by use of quantitative as well as qualitative methods. Purposive as well as simple random sampling was employed for research purposes. Additionally, primary as well as secondary data were gathered and then analyzed. Results revealed that ICT influence firstly on financial sustainability as well as profitability, next on productivity and financial efficiency and lastly on portfolio quality.

In Kenya, Mugambi (2019) carried out a research with the purpose of assessing if adoption of ICT has significant impact on financial management in public sector a case of County Government of Meru. The researcher employed census survey of 70 participants. Additionally, the researcher deployed questionnaire as research tools for collecting data. Moreover, Cronbach's alpha was computed so as to help in measuring reliability of research tools employed to obtain data and as well as measure internal consistency. Results established that budgeting process automation, procurement process automation, revenue collection automation and cash management automation impacted financial management to a great extent in Meru County.

Murrey (2016) assessed effects of adopting technology on loyalty of customer in Kenyan commercial banks. Moreover, the research deployed descriptive survey design and study population was 8635 customers, 54 departmental heads and 27 branch managers. The study's sample comprised of 368 customers determined by the use of Krejcie and Morgan (1970) table. Additionally, data was gathered using questionnaires. Findings indicated that 3 three predictor variables (responsiveness, reliability as well as accessibility) found a statistical significant influence on dependent variable. Therefore, the research revealed that commercial banks ought

to ensure components of technology adoption including; reliability, accessibility as well as responsiveness are set up in order for customer loyalty to be attained.

In Kiambu County, Gitonga (2014) examined the patterns of adopting dairy farming technologies among small-scale farmers within Githunguri Division. The study took place between February-May 2013 and employed descriptive research design. Study population was ninety-eight smallholder dairy farmers in Githunguri Division. The researcher employed primary as well as secondary sources of data. Moreover, the study employed questionnaires, key informants guide, and observation guide as tools for data collection. The study found that areas of technology adoption and application include genetic improvement, animal healthcare, nutrition (feed concentrates, fodder), and artificial insemination, feed management and milking.

In Makueni County Matiri (2019) assessed the influence of adoption of modern dairy technologies on the milk production. A cross-sectional descriptive survey design involving use of questionnaires was employed to gather relevant data from 306 livestock keeping households in Kawala, Ndovea and Matiliku sub locations. Data was then analyzed by employing descriptive statistics and logit regression estimations with the help of SPSS econometric software. Findings indicated that dairy farming technologies such as animal health care, improved nutrition, animal feed preservation and conservation and genetic improvement through artificial insemination services. Factors which influenced fodder conservation technologies included marital status, training, and extension services. The adoption of animal supplementation was influenced to a great extent by income levels and occupation rather than household endogenic factors.

In Kenya Makau, VanLeeuwen and Wichtel (2018) focused on Naari Dairy Farmers Cooperative Society located in Naari sub-location of Meru County. This study was carried out

between June and September 2017 on 40 farms that were randomly selected. Moreover data was gathered using questionnaires from 550 farmers. Results indicated that cellphone technology was used in sending short messages to farmers on farm management practices, mastitis prevention and disease prevention. The results also indicated that the use of cellphone technology in sending short messages to farmers was an effective training tool for small scale dairy farmers.

Wesutsa (2012) conducted a research to examine effect of ICT adoption on financial performance of Kenyan commercial banks. Moreover, descriptive research design was employed. Moreover, the study population consisted of 45 licensed commercial banks fully registered with CBK. Additionally, data collection tools employed was questionnaire. Responses given were then divided into different categories for purposes of analysis by use of descriptive statistics. The study was carried out between April to June 2011. The results were presented by use of bar graphs, tables as well as charts. Findings revealed that ICT enhanced the operations, increased the asset quality as well as liquidity in Kenyan commercial banks. This enhanced their markets and also enabled the firms to continue being competitive.

Chege (2016) carried out a research to assess impact of ICT adoption on financial performance of Kenyan financial institutions. Moreover, the researcher deployed descriptive research design and study population comprised of 258 Kenyan financial institutions situated as at 2015. Moreover, simple random sampling method was used to choose the study sample size of seventy eight financial institutions. Moreover, the researcher used primary data by use of questionnaires as well as secondary data gathered from financial statements of institution' as well as summaries at CBK. The study found that adoption of internet banking had enhanced customer relationship management in the bank, increased the cost efficiency within the institutions, enhanced customer convenience and also decreased operating expenses. Moreover,

adoption of modern ATM technology had increased cost efficiency in institutions, enhanced fraud risk management in the bank and increased new customer enrolment in institutions.

In Kenya, Machii and Kyalo (2016) carried out an assessment of ICT adoption for performance of MSEs in order to gain an insight into the diverse factors that influence ICT adoption for MSEs performance within Nairobi County. Moreover, the study employed descriptive research design. Study population was 4560 MSEs registered by Ministry of Trade and Industrialization in Nairobi County as at December 2015. The study's sample size of 367 MSEs was deployed. Furthermore, the stratified random sampling was employed in selecting study sample. Structured questionnaires were employed to collect research data. Administering of the questionnaires was done on "drop and pick-later". Both inferential as well as descriptive statistics were employed to conduct data analysis with assistance of SPSS. Moreover, findings were presented by use of pie charts, tables and bar charts. From the findings, ICT skills, ICT infrastructure, ICT services as well as government policies as licenses revealed statistical significance in association to adoption of ICT on firms' performance.

Kisaka, Ndi, Muriki and Muio (2015) examined the association between deepening of mobile banking and Kenyan Commercial Banks' performance. The researcher employed descriptive research design. Moreover, study targeted 6 providers of mobile phone service who offer mobile phone services as well as forty three commercial banks that were in operation as at June 2014 in Kenya. Amounts transferred through mobile for past 5 years were acquired. The researcher employed secondary data extracted from CBK, KEBS and mobile phone companies. During entire study period, amount transacted via mobile money increased in year 2009 from 27.07 billion to 207.08 billion during the study period. Moreover, this increase was motivated by

suitability given by the service. However, findings revealed weak positive association between MB and financial performance of Kenyan commercial banks.

Alfred and Bett (2018) assessed the application of e-mail services, mobile infrastructure, database management systems and enterprise resource planning on tea companies' performance located within Kericho County. Study population consisted of 164 employees working in Tegat tea processing company. The researcher employed systematic sampling and stratified random sampling processes. Moreover, data collection was carried out via interview as well as questionnaires. This study was carried out from March to May 2017. Data presentation was done using graphs and pie charts. Mobile technology was noted to have great effect on sales. Moreover, computers had an impact on profitability.

2.4 Conceptual Framework

Conceptual framework was developed in order to show the various determinants affecting MSEs financial performance. From the reviewed literature, several studies documented different determinants. Thus, this study focused on financing decisions, investment decisions and dairy technology as independent variables whereas financial performance was dependent variable. Figure 1 shows conceptual framework.

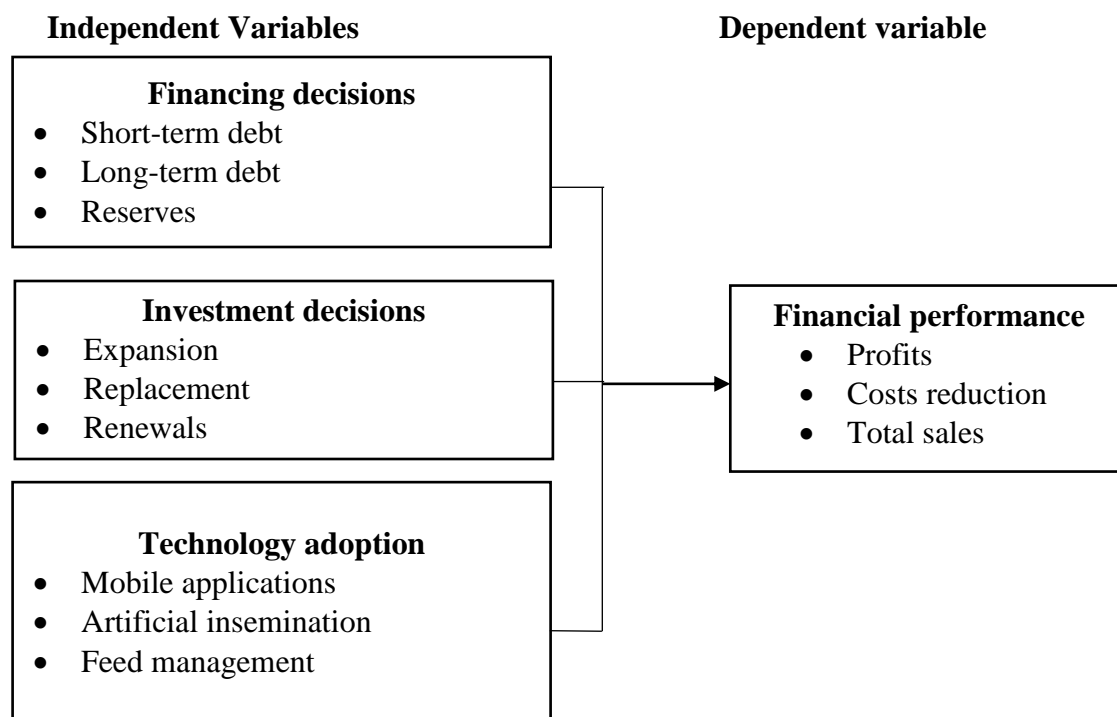


FIGURE 1:
Conceptual Framework

MSEs in the agricultural sector including the dairy sector require financial resources so as to improve milk production. Financial decisions among farmers encompass making decisions on whether to use debt or savings. Debt is money issued by a financial institution at a fixed interest rate and expected to be paid back for a set period of time. Financing decisions made by farmers revolve around use of reserves, long term or short term debt. Each of these options has impact on financial performance of dairy farms in terms of profitability, cost efficiency as well as total earnings.

Expansion, substitution, renewal, and testing and replacement decisions are all examples of investment decisions. The expansion decisions include adding new goods and lines of business, as well as increasing capacity or diversifying operations. Investment decisions in the

agricultural sector revolved around expansion, replacement and renewals. Expansion in the dairy sector involves increasing the number of dairy cows, which in turn necessitates an increase in concentrates requirements, fodder requirements as well as labor requirements. Replacement involves making decisions on whether or not to change specific cows. For instance, a farmer may decide to sell a low milk yield cow and obtain a high milk yield cow. This will mean an increase in production of milk and hence an improvement in the total earnings and profitability of the farm.

The adoption of modern technology has over the years contributed to economy growth in developing and developed countries. Mainly, technology plays a major role in enhancing efficiency in production and also in reducing the cost of production. With the adoption of technology less labor is required and the amount of work that would have been done manually for a period of one day can be completed within hours. Technology adoption in the dairy sector helps in ensuring efficiency in the utilization of resources and productivity of the dairy cows. Technology used in the dairy sector includes artificial insemination technology, animal healthcare technology, mobile applications for learning, genetic technology, feed management technology, value addition of milk, milking technology and cooling technology.

2.5 Operationalization of Research Variables

TABLE 1:
Operationalization of Research Variables

Objective	Variable Type	Indicators	Measures	Type of data analysis
To examine influence of financing decisions on the financial performance of micro and small enterprises in dairy sector within Kiambu County, Kenya	Independent • financing decisions	<ul style="list-style-type: none"> • Short-term debt • Long-term debt • Reserves 	• Ordinal	<ul style="list-style-type: none"> • Linear regression analysis • Pearson correlation • Descriptive statistics
To determine influence of investment decisions on financial performance of micro as well as small enterprises in dairy sector within Kiambu County, Kenya	Independent • investment decisions	<ul style="list-style-type: none"> • Expansion • Replacement • Renewals 	• Ordinal	<ul style="list-style-type: none"> • Linear regression analysis • Pearson correlation • Descriptive statistics
To determine influence of technology adoption on financial performance of micro as well as small enterprises in dairy sector in Kiambu County, Kenya	Independent • technology adoption	<ul style="list-style-type: none"> • Mobile applications • Artificial insemination • Feed management 	• Ordinal	<ul style="list-style-type: none"> • Linear regression analysis • Pearson correlation • Descriptive statistics
	Dependent • Financial performance	<ul style="list-style-type: none"> • Profits • Costs reduction • Total sales 	• Ordinal	<ul style="list-style-type: none"> • Linear regression analysis • Pearson correlation • Descriptive statistics

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out research methodology employed. It involves techniques researcher uses to gather research data. These include research design, study population, sampling as well as data collection procedures, and procedures employed to analyze data.

3.2 Research Design

A descriptive research design was used in this report. Descriptive research is a method of gathering and evaluating data in order to address questions about current state of study's subjects. Moreover, the main goal of descriptive survey is to formulate an issue that can be investigated more thoroughly. As a result, the primary goal of descriptive research is to gain new insights on the issue. This approach is preferred because it permits research results to be generalized.

3.3 Target Population

In statistics, the target population is the population for which data is extracted. The population is also defined as the set of all cases conforming to a given set of specifications where the sample is drawn from. The study targeted 430 licensed dairy MSEs in Kiambu County as indicated by Kiambu County Business registration records as at 31st December 2019 and the unit of analysis was the MSE managers.

TABLE 2:
Target Population

Sub-County	Target Population
Gatundu North	37
Gatundu South	70
Githunguri	47
Juja	30
Kabete	30
Kiambaa	20
Kiambu	20
Kikuyu	30
Lari	33
Limuru	37
Ruiru	20
Thika East	23
Thika West	33
Total	430

3.4 Sampling and Sample Procedure

A sample is a subset of population to be studied while sampling refers to the researcher's decision on which target group, settings, events or behaviors to be observed to successfully complete the study. The study selected a sample of 129 dairy MSEs in Kiambu County. This is as recommended by Gay, Mills and Airasian (2006) that for a sample to be suitably representative, the sample size must range between 10% and 30% of the total population to achieve normal distribution. The sample was selected through simple random sampling and was randomly selected across the county. Simple random sampling was used in this study because each and every respondent is given a chance to participate in the study. The respondents were selected randomly from each of the Sub-Counties.

TABLE 3:
Sample Size

Sub-County	Target Population	Sample Size
Gatundu North	37	11
Gatundu South	70	21
Githunguri	47	14
Juja	30	9
Kabete	30	9
Kiambaa	20	6
Kiambu	20	6
Kikuyu	30	9
Lari	33	10
Limuru	37	11
Ruiru	20	6
Thika East	23	7
Thika West	33	10
Total	430	129

3.5 Data Collection Instrument

The study used primary data to answer the research questions. This study used a questionnaire as its main primary data collection instrument. A questionnaire is an effective method to collect a wide range of information from big sample size and, in general and it is easy to analyze. The questionnaires are popular because the information can be obtained quite easily and the answers can be easily coded (Saunders, Lewis & Thornhill, 2009). The questionnaire was split into three sections where first section collected data on MSEs background information while second section comprised of likert scale based question was obtain data on the determinants whereas the third section collected data on the MSEs financial performance.

3.6 Data Collection Procedure

Data collection procedures are strategies used in research to ensure reliable, valid and reliable data is obtained to inform research results (Saunders, Lewis & Thornhill, 2009). This

study used primary data. Primary data was obtained by the usage of a questionnaire, which was self-administered to 129 MSEs' managers by the researcher.

3.7 Pilot Testing

A pretest of the study instrument was conducted on some employees of the MSEs though not the final sample to assess suitability of answers were derived towards the stated objectives and made any changes on the questionnaires. The pilot study was done to pretest questionnaires validity as well as reliability. The pilot test was conducted in Murang'a County due to its proximity to Kiambu County and the practice of livestock farming.

3.7.1 Reliability and validity

Reliability defines the consistency of a research tool where the results obtained should be similar in similar circumstances, and therefore the same researchers using the same tool should obtain the same results under the same conditions. The study uses the Cronbach coefficient alpha to assess reliability of questionnaire with an alpha coefficient higher than the recommended threshold of 0.7 as a reliability indicator. Validity examines whether a research tool actually measures what it intends to measure or how accurate the research results are. The researcher sought views of experts in the field, especially research leaders and other school of business lecturers.

3.8 Data Analysis and Presentation

This study used descriptive as well as inferential statistical tools for analysis of the collected data using SPSS statistical software. Moreover, descriptive statistics including percentages, frequency, mean as well as standard deviation to summarize collected data. Inferential statistics included the regression model which was employed to assess the link

between dependent and independent variables and presented in graphs and tables. The regression equation was formulated as follows:

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

Where;

Y = Financial performance

X_1 = Financing decisions

X_2 = Investment decisions

X_3 = Dairy technology

$\beta_1 - \beta_3$ = Regression Coefficients

β_0 = Constant

ε = Error term

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter includes data analysis, interpretation of results, and presentation and discussion of findings based on study's general and specific objectives. The general objective was to evaluate the determinants of financial performance of MSEs' in dairy sector in Kiambu County. The chapter starts with response rate then followed by demographic information and study variables covering financing decisions, investment decisions and technology adoption on financial performance of micro and small enterprises. The chapter also covers diagnostics tests and inferential statistics such as correlation analysis as well as regression analysis.

4.2 Response Rate

The population of this was 430 dairy micro and small enterprises in Kiambu County. The sample size, which was thirty percent of study population, was 129 owners as well as managers of dairy micro as well as small enterprises in Kiambu County. Response rate was as depicted in Table 4.

TABLE 4:
Response Rate

Sub-County	Sample Size	Responses	Response Rate
Gatundu North	11	9	81.82
Gatundu South	21	14	66.67
Githunguri	14	12	85.71
Juja	9	7	77.78
Kabete	9	6	66.67
Kiambaa	6	5	83.33
Kiambu	6	4	66.67
Kikuyu	9	6	66.67
Lari	10	9	90.00
Limuru	11	9	81.82
Ruiru	6	5	83.33
Thika East	7	5	71.43
Thika West	10	7	70.00
Total	129	98	75.97

Source: Author (2021)

Out of 129 questionnaires that were distributed, 98 questionnaires were filled and returned, resulting to a 75.97% response rate. Nulty (2011) suggests that response rate of 75 per cent is sufficient for purposes of analysis, for making conclusions and making inferences concerning a population. In addition, Kothari (2012), a response rate of 50 percent should be considered average, 60 percent to 70 percent should be considered adequate, and more than 70 percent should be considered excellent. This means that the 75.97 percent response rate was sufficient for analysis, making conclusions, and reporting.

4.3 Demographic Information

Demographic information included name of the firm, the type of agricultural products, the duration of time that the firm has been in operation and number of employee in the firm.

4.3.1 Milk processing firms used by farmers

The respondents, owners of dairy micro and small enterprises, were requested to specify the milk processing firms where they were taking their milk. Findings were as shown in Table 5.

TABLE 5:
Milk Processing Firms used by Farmers

	Frequency	Percent
Chicoco	2	2.0
Gatamaiyu DFCS	5	5.1
Gatundu South Dairy Cooperative	1	1.0
Gikambura DFCS	4	4.1
Githunguri Dairy Farmers	13	13.3
Kabete DFCS	7	7.1
Karatu Dairy Farmers	7	7.1
Kiambaa DFCS	13	13.3
Kikuyu DFCS	5	5.1
Kiriita	4	4.1
Limuru DFCS	10	10.2
Muguga	1	1.0
Ndumberi DFCS	16	16.3
Sidai Africa Limited	5	5.1
Sigona DFCS	5	5.1
Total	98	100.0

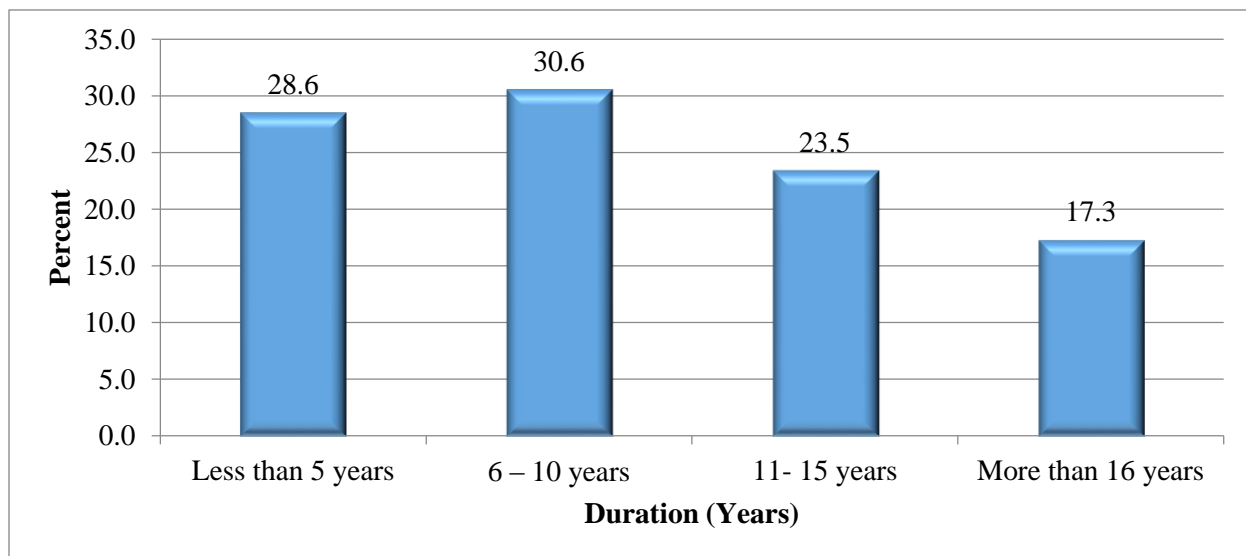
Source: Author (2021)

From the results, 16.3% of the selected respondents specified that they were taking their milk to Ndumberi DFCS, 13.3% indicated Githunguri Dairy Farmers, 13.3% indicated Kiambaa DFCS, 10.2% indicated Limuru DFCS, 7.1% indicated Karatu Dairy Farmers, and 7.1% indicated Kabete DFCS. In addition, 5.1% indicated Gatamaiyu DFCS, Sigona DFCS, Kikuyu DFCS and Sidai Africa Limited and 4.1% indicated Gikambura DFCS. Also, 4.1% indicated that they were taking their milk to Kiriita DFCS, 2.0% indicated Chicoco, 1.0% indicated Muguga and the same percent indicated Gatundu South Dairy Cooperative.

4.3.2 Duration of dairy business operation

The respondents were asked to specify the duration of time that dairy micro and small enterprises had been under operation. Results were as depicted in Figure 2.

FIGURE 2:
Duration of Dairy Business Operation



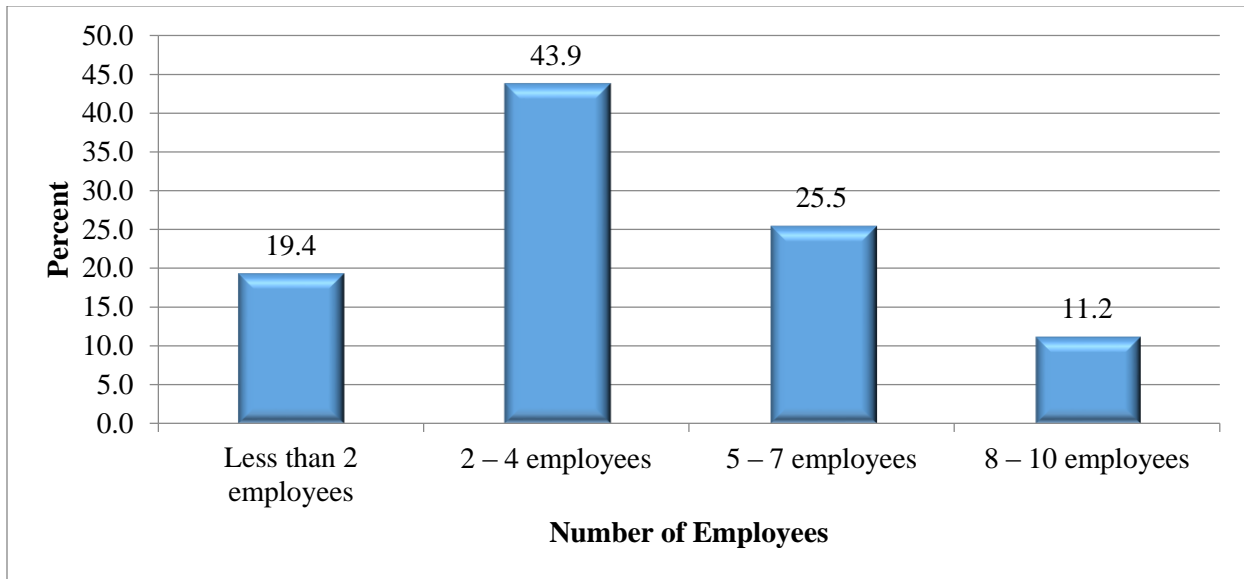
Source: Author (2021)

From the results, 30.6% of the respondents pointed out that their dairy micro and small enterprises had been under operation from 6 to 10 years, 28.6% specified less than 5 years, 23.5% indicated between 11 and 15 years and 17.3% indicated more than 16 years. These imply most of dairy micro as well as small enterprises had been in operation for between 6 and 10 years.

4.3.3 Number of employees in the dairy farmers

The respondents' were asked to specify the total number of staffs in their dairy micro and small enterprises. Results were as depicted in Figure 3.

FIGURE 3:
Number of Employees in Dairy Farmers



Source: Author (2021)

From the results, 43.9% of the participants specified that their dairy micro and small enterprises had between 2 and 4 employees, 25.5% indicated that they had between 5 and 7 employees, 19.4% indicated less than 2 employees and 11.2% indicated 8 and 10 employees. This implies that most of dairy micro as well as small enterprises in Kiambu County had between 2 and 4 employees.

4.4 Study Variables

Quantitative data for the four independent variables was obtained from the closed questions that used a 5-point Likert scale, where 1 denoted not at all, 2 denoted minimal extent, 3 denoted moderate extent, 4 denoted great extent and 5 denoted very great extent. Nulty (2011) suggest that in a 5 scale Likert questions, the interpretation of arithmetic mean, very great extent is from 4.5 to 5.0, great extent is from 3.5 to 4.5, moderate extent is from 2.5 to 3.5, minimal

extent is from 1.5 to 2.5 while not at all is from 1 to 1.5.

4.4.1 Financing decisions and financial performance

The first study objective was to examine the effect of financing decisions on the financial performance of dairy micro and small enterprises in Kiambu County. Respondent’s were requested to specify the degree to which various financing practices and choices affected financial performance of their dairy micro as well as small enterprises. The results were as depicted in Table 6.

**TABLE 6:
Financing Decisions and Financial Performance**

	Mean	Std. Deviation
Access to bank credit	1.806	.636
Use of savings as a source of financing	4.500	1.067
Use of long term financing sources	4.418	1.217
Use of short term financing sources	2.765	1.290
Use of mobile money sources	3.091	1.573
High interest rates	4.500	.888
Loan processing and transaction costs	4.551	.964
Use of funds from SACCOs	4.622	.843

Source: Author (2021)

As shown by Table 6, respondents indicated with a mean of 4.622 and SD of 0.843 that the use of funds from SACCOs affected financial performance of dairy micro as well as small enterprises to a very great extent. Credit obtained from Savings and credit cooperative societies is used to make investment in more productive high yield dairy cows hence increase in production of milk as well as profitability of small scale farms. These findings agree with Njiru and Mwikamba (2020) findings that accessing to agricultural credit had significant impact on milk product and financial performance of small scale dairy farms.

With a mean of 4.551 and SD of 0.964 indicated that loan processing and transaction costs affected financial performance of dairy micro as well as small enterprises to a great extent. In addition, respondents indicated that the use of savings as a source of financing affected financial performance of dairy micro and small enterprises to very great extent, as indicated by mean of 4.500 and SD of 1.067. Managers have complete information not only on the firm's current state but also on future investments under consideration, so internally generated capital to fund investment opportunities is preferred over all other external finance options. When a company needs to raise capital externally due to a lack of internally generated funds, it is preferable to do so through debt rather than equity because debt is not information sensitive.

Further, respondents indicated with mean of 4.500 and SD of 0.888 that high interest rates had an effect on financial performance of dairy micro and small enterprises to great extent. Moreover, these findings conform to Kwaning et al. (2015) observation that high interest rate on loans negatively affect financial performance of micro, small and medium enterprises. Results show that use of mobile money sources had moderate effect on financial performance of dairy micro as well as small enterprises to large extent as indicated by mean of 3.091 and SD of 1.507.

Respondents indicated with mean of 4.418 and SD of 1.217 that the use of long term financing sources affected the financial performance of dairy micro as well as small enterprises to a great extent. Long-term finance has potentially adverse consequences when its short supply is to come certain degree at odds with current theoretical contributions emphasizing that usage of short-term debt may be linked with quality firms and may also have better incentive properties. The results showed that the use of short term financing sources has no effect on the financial performance of dairy micro and small enterprises as indicated by mean of 2.765 and SD of

1.290. With mean of 1.806 and SD of 0.636 respondents specified that access to bank credit affected the financial performance of dairy micro as well as small enterprises to a great extent. Credit terms is the most important predictor of micro and small enterprises performance and also the most significant challenge in the utilization of commercial banks loan since majority of the MSEs find credit terms offered been unfavourable.

4.4.2 Investment decisions and financial performance

The second objective was to assess the effect of investment decisions on the financial performance of dairy micro and small enterprises in Kiambu County. The participants were requested to specify the degree to which investment decisions affected financial performance of dairy micro and small enterprises. The results were as presented in Table 7.

**TABLE 7:
Investment Decisions and Firms' Performance**

	Mean	Std. Deviation
Expansion decisions	4.531	.944
Replacement decisions	4.581	.994
Renewal decisions	1.306	.463
Research and development	2.663	1.512
Acquisitions of other farms	1.684	.991
Diversification	4.571	.759

Source: Author (2021)

The respondents indicated with mean of 4.581 and SD of 0.994 that replacement decisions affected the financial performance of dairy micro as well as small enterprises to a very great extent. Respondents also indicated with mean of 4.571 and SD of 0.759 that diversification affected financial performance of dairy micro as well as small enterprises to very great extent. The findings conform to Mayala, Katundu and Msuya (2017) discoveries that diversification positively affects performance of an organization.

With mean of 4.531 and SD of 0.944, respondents indicated that expansion decisions affected the financial performance of dairy micro as well as small enterprises to a very great extent. These findings conform to the discoveries of Musau (2016) who revealed that replacement decision and expansion decisions have an effect on performance of SACCOs. Results also showed that the respondents indicated that research and development affected financial performance of dairy micro as well as small enterprises to very great extent as indicated by mean of 2.663 and SD of 1.512.

With mean of 1.684 and SD of 0.991, respondents indicated that acquisitions of other farms had no effect on financial performance of dairy micro and small enterprises. The decision to invest is focused on detailed and reliable information about the need, incentive, length of implementation and operation investments, expenditure volume and financial resources, fund input and production flows during the investment operation, maintaining profitability and liquidity, and recovering invested capital. Also, the respondents specified that renewal decisions had no effect at all on the financial performance of dairy micro and small enterprises as indicated by mean of 1.306 and SD of 0.463.

4.4.3 Technology adoption and financial performance

The third study objective was to determine effect of technology adoption on financial performance of dairy micro and small enterprises within Kiambu County. The respondents' were requested to specify the degree in which technology adoption affected financial performance of their dairy micro and small enterprises. The results were as presented in Table 8.

TABLE 8:
Technology Adoption and Financial performance

	Mean	Std. Deviation
Mobile applications (eg. smartcow, ecow)	4.469	1.027
Animal healthcare technology	4.693	.935
Artificial insemination technology	4.653	.942
Genetic technology	4.744	.722
Feed management technology	4.785	.677
Value addition of milk	3.020	1.492
Milking technology	4.541	1.056
Cooling technology	4.622	.925

Source: Author (2021)

As shown by Table 8, the respondents indicated that feed management technology affected financial performance of dairy micro as well as small enterprises to very large extent as indicated by mean of 4.785 and SD of 0.677. Results showed that use of milking technology affected financial performance of dairy micro as well as small enterprises to large extent as indicated by mean of 4.541 and SD of 1.056. These findings conform to Tawaf and Russanti (2015) discoveries that adoption of cooling technology, milking technology and technology in construction of cow-shed had a significant influence on farm revenue in Indonesia. In addition, the respondents indicated that genetic technology has affected financial performance of dairy micro as well as small enterprises to very great extent as indicated by mean of 4.744 and SD of 0.722.

Similarly, respondents indicated with mean of 4.622 and SD of 0.925 that cooling technology affected financial performance of dairy micro as well as small enterprises to very large extent. Also, they indicated by mean of 4.693 and SD of 0.935 that animal healthcare technology affected the financial performance of dairy micro as well as small enterprises to very large extent. With mean of 4.653 and SD of 0.942, they indicated that the use of artificial

insemination technology affected financial performance of dairy micro as well as small enterprises to very great extent. Moreover, these findings concur with Makau, VanLeeuwen and Wichtel (2018) discoveries that dairy farming technologies such as animal health care, improved nutrition, animal feed preservation and conservation and genetic improvement through artificial insemination services influenced milk production in Nzau Sub-County. The findings also agree with Gitonga (2014) argument that technology adoption and application include genetic improvement, animal healthcare, nutrition (feed concentrates, fodder), artificial insemination, feed management and animal feeds formulation had an effect on milk production and hence financial performance of dairy businesses.

Further, respondents indicated with mean of 4.469 and SD of 1.027 that mobile applications such as smartcow and ecow had no effect on financial performance of dairy micro and small enterprises. With mean of 3.020 and SD of 1.492, they indicated that value addition of milk affected the financial performance of dairy micro and small enterprises to a minimal extent.

The adoption of technology leads to improvement in milk production, which in turn improves the profitability of the farm. In addition, it increase revenues and profitability of firms and also play a key role in the reduction of labor cost among other costs. Cellphone technology is used in sending short messages to farmers on farm management practices, mastitis prevention and disease prevention. The use of cellphone technology in sending short messages to farmers is an effective training tool for small scale dairy farmers. The findings are in line with El-Osta and Morehart (2013) argument that adoption of technology had significant effect on production performance of small-scale dairy farmers, which in turn increase revenue and profitability of dairy farms.

4.4.4 Finance performance

The dependent variable was financial performance of dairy micro and small enterprises within Kiambu County. This was measured by profits, costs reduction and total sales. In a scale of 1 to 5, 1 represented highly deteriorated, 2 represented deteriorated, 3 represented no effect, 4 represented improved and 5 represented highly improved.

TABLE 9:
Performance of Agricultural MSEs

	Mean	Std. Deviation
Profitability	3.979	1.201
Return on investments	3.898	.766
Reduction in costs	4.081	.275
sales	4.061	1.368

Source: Author (2021)

As shown by Table 9, respondents indicated that profitability of their dairy micro and small enterprises had improved in last two years as indicated by mean of 3.979 and SD of 1.201. These findings agree with Matiri (2019) findings that the adoption of modern technology, investment decisions and financing decisions had significant effect on production performance of small-scale dairy farmers, which in turn increased revenue and profitability of firms. In addition, technology adoption played a key role in the reduction of labour cost among other costs.

Also, respondents further revealed that reduction in costs had improved in their dairy micro and small enterprises as shown by mean of 4.081 and SD of 0.275. In addition, they indicated with mean of 4.061 and SD of 1.368 that monthly earnings had improved in the last two years. Further, they indicated with mean of 3.898 and SD of 0.766 that return on investments of their dairy micro and small enterprises had improved in the last two years.

4.5 Diagnostic Tests

Normality, no autocorrelation, and little or no multicollinearity are all underlying assumptions in linear regression. The confidence intervals, as well as other scientific insights derived from the regression model, may be regarded as deceptive, biased, or inefficient if the regression assumptions are violated, rendering the inferences derived inapplicable to other results.

4.5.1 Normality test

Shapiro Wilk Test was employed to test for normality assumption. Null hypothesis is that the data is normally distributed. We reject null hypothesis if p-value is less than selected level of significance (0.05), implying that the data used is not from a normal population, does not follow normal distribution. If the p-value obtained is greater than selected level of significance (0.05), we fail to reject null hypothesis and conclude that data is from a normal population, is normally distributed.

TABLE 10:
Tests of Normality

	Statistic	df	Sig.
Performance	.969	86	.061
Investment Decisions	.987	86	.115
Financing Decisions	.981	86	.097
Technology Adoption	.985	86	.101

a. Lilliefors Significance Correction

From the findings, as shown in Table 10, the dependent variable, performance of dairy micro as well as small enterprises had a p-value of 0.061, Investment Decisions had a p-value of 0.115, financing decisions had a p-value of 0.097 and technology Adoption had a p-value of

0.101. As a result, all of the variables were normally distributed, and the research data met the regression analysis assumption of data normality.

4.5.2 Autocorrelation test

Autocorrelation was checked in linear regression model by use of Durbin-Watson test. For the Durbin-d Watson's tests, null hypothesis is that residuals are not linearly auto correlated. The d value ranges from 0 to 4, and if d values are 1.5 d 2.5, the data is free of autocorrelation.

**TABLE 11:
Durbin-Watson Test**

Model	Durbin-Watson
1	1.828

The findings presented in Table 11, show that the d-value was 1.828. Since the value lies within the range $1.5 < d < 2.5$, then we conclude that there is no autocorrelation in the data and therefore regression analysis can be computed.

4.5.3 Multicollinearity test

VIF was employed to measure multicollinearity. The study employed the use of VIF to measure correlation level among variables. According to Kothari (2012), the general rule is that a VIF of more than ten (10) necessitates further study.

**TABLE 12:
Multicollinearity Test**

	Tolerance	VIF
Investment Decisions	.199	5.028
Financing Decisions	.271	3.689
Technology Adoption	.438	2.282

According to the findings, as shown in Table 12, the VIF value for investment decisions was 5.028. In addition, the Variance Inflation Factor for financing decisions was 3.689 and the Variance Inflation Factor for technology adoption was 2.282. This indicates that the independent variables are not strongly correlated.

4.5 Inferential Statistics

Inferential statistics consist of Pearson correlation as well as regression analysis. Inferential statistics were employed to assess the association between dependent (financial performance) and independent variables (financing decisions, investment decisions and technology adoption).

4.5.1 Correlation analysis

The study employed Pearson correlation analysis to show the association between independent and dependent variable. Pearson correlation coefficients range from 0 to 1 where strength of correlation increases as coefficients closeness towards 1. Results were as presented in Table 13.

TABLE 13:
Correlation Coefficients

		Performance	Financing Decisions	Investment Decisions	Technology Adoption
Performance	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	98			
Financing Decisions	Pearson Correlation	.799**	1		
	Sig. (2-tailed)	.000			
	N	98	98		
Investment Decisions	Pearson Correlation	.825**	.854**	1	
	Sig. (2-tailed)	.000	.000		
	N	98	98	98	
Technology Adoption	Pearson Correlation	.489**	.749**	.634**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	98	98	98	98

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

Source: Author (2021)

According to the results, there is strong and positive association between investment decisions and financial performance of dairy micro and small enterprises within Kiambu County ($r=0.825$, $p\text{-value}=0.000$). Additionally, the association was significant as $p\text{-value}$ (0.000) was below the significance level (0.000). Farmer's investment decisions regarding milk production ensures efficient allocation of capital that leads to increase in farm profitability. These decisions include replacement of machinery, buying of new machinery, allocation of resources and obtaining of physical assets. The findings conform to Farinha and Prego (2013) discoveries that investment decisions have strongly positive association with the rate of firms' investment and profitability. The findings also conform to the finding of Mutinda, Gathungu, Kibe and Wambua (2020) that investment decisions had significant impact on financial performance of potato production in highlands.

The results indicated a strong and positive association between financing decisions and financial performance of dairy micro and small enterprises within Kiambu County ($r=0.799$, p -value $=0.000$). The relationship was considered significant as p -value (0.000) was less than significance level (0.000). The findings are in line with the discoveries of Njiru and Mwikamba (2020) that financing decisions have significant effect on milk product production and financial performance of small scale dairy farms.

Results show a moderate and positive association between technology adoption and financial performance of dairy micro and small enterprises within Kiambu County ($r=0.489$, p -value $=0.000$). Moreover, association was significant as p -value (0.000) was less than significance level (0.000). Findings agree with Khanal, Gillespie and MacDonald (2010) observation that adoption of modern technology leads to an enhancement in milk production, which in turn improves the profitability of farms.

4.5.2 Regression analysis

Multivariate regression analysis was used in this study to assess the association between dependent (financial performance) and independent variables (financing decisions, investment decisions and technology adoption). The results were as shown in Table 14.

TABLE 14:
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.860 ^a	.739	.731	.10913

a. Predictors: (Constant), Technology Adoption, Investment Decisions , Financing Decisions

Source: Author (2021)

The R-squared value denotes the variance in dependent variable that can be explained by independent variables: the greater the value of R-squared the greater the impact of independent variable. Moreover, as depicted in Table 15, the r squared was 0.739, meaning that 73.9% of financial performance of dairy micro and small enterprises within Kiambu County could be explained by financing decisions, investment decisions and technology adoption.

TABLE 15:
Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.789	.580		6.538	.000
	Financing Decisions	.244	.054	.534	4.521	.000
	Investment Decisions	.479	.093	.523	5.177	.000
	Technology Adoption	-.391	.128	-.243	-3.051	.003

a. Dependent Variable: Performance

Source: Author (2021)

The regression equation was;

$$Y = 3.789 + 0.479X_1 + 0.244X_2 - 0.391X_3$$

From the results, investment decisions has positive significant effect on financial performance of dairy micro and small enterprises in Kiambu County ($\beta_1=0.479$, p-value= 0.000). This implies that unit improvement in investment decisions would lead to 0.496 improvements in financial performance of dairy micro and small enterprises. Effect of investment decisions on financial performance was significant since p-value (0.000) was below significant level of 0.05. Investments decisions add value to the firm by ensuring there is efficient allocation of capital hence increases the shareholders wealth. The findings agree with Gathungu, Kibe and Wambua

(2020) argument that investment decisions have significant effect on potato production in highlands. Findings are also in line with finding of Musau (2016) that investment decisions have statistically significant influence on SACCOs financial performance

In addition, findings revealed that financing decisions have positive significant effect on financial performance of dairy micro as well as small enterprises within Kiambu County ($\beta_2=0.244$, p-value= 0.000). This means that unit improvement in financial decisions would lead to 0.223 improvements in financial performance of dairy micro and small enterprises. The effect of investment decisions on financial performance was considered significant as p-value (0.000) was less than significant level (0.05). Moreover, the finding conforms to the finding of Kwaning et al. (2015) argument that financing decisions have significant effect on small scale dairy farms' financial performance.

Further, the results indicated that technology adoption has an inverse significant impact on financial performance of dairy micro and small enterprises located within Kiambu County ($\beta_3=-0.391$, p-value= 0.003). The findings disagree with the discoveries of El-Osta and Morehart (2013) that the adoption of technology had significant effect on financial performance of firms. Despite the fact that the adoption of mobile applications (eg smartcow, ecow), animal healthcare technology, artificial insemination technology, genetic technology, feed management technology, value addition of milk, milking technology and cooling technology improves production and efficiency in the farms, the level of adoption among the micro and small enterprises was low due to their high cost of adoption. In addition, the level of awareness and knowledge of utilization of these technologies is low among farmers.

TABLE 16:
ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.177	3	1.059	88.928	.000 ^b
	Residual	1.119	94	.012		
	Total	4.297	97			

a. Dependent Variable: Performance

b. Predictors: (Constant), Technology Adoption, Investment Decisions , Financing Decisions

Source: Author (2021)

ANOVA was deployed to examine if model suits the data well. F calculated was 88.928, and the F-critical was 2.72, as shown in Table 4.13. The model was considered a good fit for the data since F-calculated (88.928) was greater than F-critical and p-value (0.000) was below significance level of 0.05. Moreover, this means that model could be employed in forecasting effect of investment decisions, financing decisions and technology adoption on financial performance of dairy micro and small enterprises in Kiambu County.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter sets out a summary of findings, conclusions, recommendation and suggestions for additional studies. Research conclusions and recommendations sought to address the study purpose which was evaluate the determinants of financial performance of micro and small enterprises in the dairy sector within Kiambu County.

5.2 Summary

5.2.1 Financing decisions and financial performance

Results showed financing decisions have positive and significant effect on financial performance of micro and small enterprises in the dairy sector located in Kiambu County. Study found that use of funds from Savings and credit cooperative societies (SACCOs) has an effect on financial performance of dairy micro as well as small enterprises. Credit obtained from Savings and credit cooperative societies is used to make investment in more productive high yield dairy cows hence increase in production of milk as well as profitability of small scale farms. The study also found that loan processing and transaction costs affected the financial performance of dairy micro as well as small enterprises to a great extent. In addition, the use of savings as a source of financing affects the financial performance of dairy micro and small enterprises. Further, the study established that high interest rates had an effect on the financial performance of dairy micro and small enterprises to a great extent. High interest rate on loans negatively affects financial performance of MSEs. Also, usage of mobile money sources affected financial performance of dairy micro as well as small enterprises.

Additionally, the study discovered that the use of long term financing sources affects financial performance of dairy micro and small enterprises. Long-term finance has potentially adverse consequences when its short supply is somehow at odds with current theoretical contributions that lay emphasis that usage of short-term debt may be linked with quality firms and also may have enhanced incentive properties. Access to bank credit had an effect on financial performance of dairy micro and small enterprises to a great extent. Credit terms is the most important predictor of micro and small enterprises performance and also the most significant challenge in the utilization of commercial banks loan since majority of the MSEs find credit terms offered been unfavourable.

5.2.2 Investment decisions and financial performance

Findings revealed that investment decisions have positive and significant influence on financial performance of micro and small enterprises in the dairy sector located within Kiambu County. Study revealed that replacement decisions, expansion decisions as well as diversification decisions impact financial performance of dairy micro and small enterprises. Small-scale dairy farmers are motivated to commit financial resources in their livestock through diversification, replacement and expansion to increase future returns.

The results also showed that research and development moderately affected the financial performance of dairy micro and small enterprises. Further, the study discovered that acquisitions of other farms had no effect on financial performance of dairy micro and small enterprises. Also, renewal decisions had no effect at all on financial performance of dairy micro and small enterprises. The decision to invest is focused on detailed and reliable information about the need, incentive, period of implementation and activity expenditures, expenditure volume and financial

resources, fund input and output flows during the investment process, maintaining profitability and liquidity, and recovering invested capital.

5.2.3 Technology adoption and financial performance

Regression analysis shows that technology adoption has a negative significant effect on financial performance of micro and small enterprises in the dairy sector located within Kiambu County, while correlation results showed that technology adoption is positively associated to financial performance of micro and small enterprises. The study revealed that feed management technology, genetic technology, animal healthcare technology and artificial insemination technology affected financial performance of dairy micro as well as small enterprises. Generally, technology adoption and application include genetic improvement, animal healthcare, nutrition (feed concentrates, fodder), artificial insemination, feed management and animal feeds formulation had an effect on milk production and hence financial performance of dairy businesses. Similarly, the study found that cooling technology, milking technology affects the financial performance of dairy micro and small enterprises. Moreover, the study discovered that value addition of milk had little effect the financial performance of dairy micro and small enterprises. This because most of the farmers were not practising any form of value addition.

However, despite the fact that the adoption of mobile applications (e.g. smartcow, ecow), animal healthcare technology, artificial insemination technology, genetic technology, feed management technology, value addition of milk, milking technology and cooling technology improves production and efficiency in the farms, the level of adoption among the micro and small enterprises was low due to their high cost of adoption. In addition, the level of awareness and knowledge of utilization of these technologies is low among farmers.

5.3 Conclusions

The study concludes that financing decisions have positive and significant effect on dairy micro as well as small enterprises within Kiambu County. Moreover, the study discovered that source of financing, interest rates and loan processing and transaction costs have an effect on financial performance dairy SMEs within Kiambu County. This means that improvement in financing decisions would lead to enhancement in financial performance of financial performance of dairy micro and small enterprises within Kiambu County. These findings agree with Ikapel and Kajirwa (2017) findings that financing decisions have significant influence on financial performance. The results also agree with Freeman, Ehui and Jabbaar (2013) observation that financing decisions have an effect on dairy production among smallholder farmers.

The study also concludes that investment decisions have positive significant effect on dairy micro and small enterprises in Kiambu County. The study further concludes that technology adoption has a negative significant effect on financial performance of dairy micro and small enterprises within Kiambu County. These findings are contrary to El-Osta and Morehart (2013) suggestions that technology adoption has significant effect on production performance of dairy operations in the United States. The findings as well disagree with Tawaf and Russanti (2015) discoveries that adoption of technology in construction of cow-shed, animal breeding and feeding management and animal feeds formulation had a significant influence on farm revenue.

5.4 Recommendations

The study found that access to bank credit has an effect on financial performance of micro and small enterprises. However, most of the micro as well as small enterprises do not have

access to bank credit due to lack of collateral. This study therefore recommends that commercial banks in Kenya as well as other financial institutions should review their credit terms to suit micro as well as small enterprises.

The study further found that high interest rates and loan processing and transaction costs had an effect on financial performance of micro and small enterprises. As such the study recommends that financial institutions including commercial banks, microfinance banks and SACCOs should ensure that their interest rates are as low as possible so as to enable growth of micro as well as small enterprises in the dairy sector. Additionally, the study recommends that financial institution should reduce loan processing and transaction costs. This can be done by using information technology in loan applications, evaluation as well as processing.

The study discovered that expansion decisions had an effect on financial performance of micro as well as small enterprises. This study recommends that dairy farmers should seek to expand their micro as well as small enterprises by increasing the number of dairy cows so as to increase milk production, which would in turn improve profitability of farms.

The study found that diversification decisions have an effect on financial performance of dairy micro and small enterprises. The study recommends that dairy farmers should use diversification in their farms by introducing dairy goats, chicken among other livestock. The study found that replacement decisions have significant effect on financial performance of dairy micro as well as small enterprises. As such, the study recommends that dairy farmers should replace old and less productive dairy cows with young, more productive and high yield cows.

5.5 Recommendation for Further Research

This research aimed to evaluate the determinants of financial performance of micro and small enterprises in the dairy sector located in Kiambu County. However, this research was only limited to in dairy sector in Kiambu county hence findings cannot be applied to other sectors as well as counties in Kenya. Therefore, researcher recommends that further studies the evaluation of the determinants of financial performance of micro and small enterprises in other agricultural sectors in sector in Kiambu County as well as other counties in Kenya. Additionally, the study discovered that 73.9% of financial performance of dairy micro and small enterprises could be explained by financing decisions, investment decisions and technology adoption. As such, further studies ought to be conducted to evaluate other factors that influence financial performance of dairy micro and small enterprises within Kiambu County.

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APPENDICES

Appendix I: Questionnaire

Dear Respondent,

The aim of this questionnaire is to obtain data on determining factors of financial performance of MSEs in agricultural sector in Kiambu County: A Case of the Dairy Sector in Kiambu County. The research is academic in nature, therefore, I kindly ask you to take part voluntarily in the research by responding to the attached questionnaire. The data provided will remain confidential and will be employed for envisioned purpose. Your contribution will be greatly appreciated.

Instructions

- i. Please do not write your name and contacts
- ii. Tick or fill where appropriate

Section I: Firm Profile

1. Indicate the milk processing firm where you take your milk (optional)

2. Indicate the duration of time, your dairy business has been in service

Less than 5 years []

6 and 10 years []

11 and 15 years []

More than 16 years []

3. Specify the number of employee in your farm

Less than 2 employees []

2 – 4 employees []

5 – 7 employees []

8 – 10 employees []

Over 10 employees []

Section II: Determinants

Part A: Financing Decisions

4. To what extent do the listed financing practices and choices affect performance of your firm on a 5 scale? 1- Not at all; 2- Minimal extent; 3-Moderate Extent; 4-great extent; 5 very great extent

Statement	1	2	3	4	5
a) Access to bank credit					
b) Use of reserves as a source of financing					
c) Use of long term financing sources					
d) Use of short term financing sources					
e) Use of mobile money sources					
f) High interest rates					
g) Loan processing and transaction costs					
h) Use of funds from SACCOs					

Part B: Investment Decisions

5. To what extent does listed investment practices and choices affect performance of your firm on a 5 scale? 1- Not at all; 2- Minimal extent; 3-Moderate Extent; 4-great extent; 5 very great extent

Investment Decisions	1	2	3	4	5
a) Expansion decisions					
b) Replacement decisions					
c) Renewal decisions					
d) Research and development					
e) Acquisitions of other farms					
f) Diversification					

Part C: Technology Adoption

6. To what extent does the listed technological practices affect performance of your firm on a scale of 1-5 where 1- Not at all; 2- Minimal extent; 3-Moderate Extent; 4-great extent; 5 very great extent

Practice	1	2	3	4	5
a) Mobile applications (e.g. smart cow, ecow)					
b) Animal healthcare technology					
c) Artificial insemination technology					
d) Genetic technology					
e) Feed management technology					
f) Value addition of milk					
g) Milking technology					
h) Cooling technology					

Section III: Performance

7. To what extent have the listed financial performance indicators improved in your firm for the last two years? Where;

1: Highly deteriorated

2: Deteriorated

3. No effect

4 Improved

5: Highly improved

Measures of performance	Scale
a) Profitability	
b) Return on investments	
c) Reduction in costs	
d) Monthly earnings	

Thank you