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**Board Composition and Financial Performance of Agricultural Cooperative Societies in
Kericho County, Kenya**

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County, Kenya**

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Abstract

Purpose: To assess the influence of board composition and firm size on the financial performance of agricultural cooperative societies in Kericho County, Kenya

Methodology: The study targeted 84 agricultural cooperative societies in Kericho County. Data was obtained from 49 agricultural cooperative societies' annual reports using a data extraction form covering the period between 2017 and 2022.

Findings: Panel regression analysis was used and the findings indicated that board composition had a negative and significant influence on the return on investment of the agricultural cooperative societies

Unique Contribution to Theory, Practice and Policy: The study concluded that board composition has a negative and significant influence on the return on investment. The study also revealed that firm size had a significant moderating effect on the relationship between board composition and return on investment. The study recommended that the management of cooperative societies develop policies focusing on promoting diversity and expertise within board composition.

Keywords: *Board Composition, Financial Performance, Agricultural Cooperative Societies, Agency Theory*

JEL Codes: *G30, G32, Q13, D82*

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INTRODUCTION

Agricultural cooperative societies are organizations formed by farmers combining their resources to achieve economies of scale in producing and marketing their agricultural produce (FAO,2019). The cooperatives are important for providing market access to rural farmers and preventing exploitation by middlemen. They are involved in various aspects of the farming process, including buying, collecting, processing, and marketing produce (Roudaki, 2018). According to Maričić, Škorić, and Radenković (2018), agricultural cooperative societies assist rural farmers in overcoming challenges faced by farmers individually, such as market power, access to resources such as farm inputs and equipment, and offer a platform for collective action.

Members of agricultural cooperative societies also enjoy other benefits such as access to credit, professional advice, extension services, mobilization of savings for members, financial education, and attraction of government support (Wittman, Dennis & Pritchard, 2017). If well-managed, Cooperative societies can enhance the standards of living of vulnerable individuals and farmers by generating employment, creating wealth, and eradicating poverty in rural areas (Younas, Klein, Trabert, & Zwergel, 2019). However, extant literature has found that, like any other organization, Agricultural cooperative societies have experienced cases of mismanagement, lack of accountability, insider control, non-compliance with regulations, and lack of member participation which led to compromised financial performance.

The movement of agricultural cooperative societies has been significant globally, especially in developing countries. This movement started in the 19th century when the need for farmers to work together was motivated by the need to find solutions to the difficulties they faced due to industrialization and changes in the agrarian economy (Cuznetov, 2022). This led to the establishment of the Rochdale Society of Equitable Pioneers in England in 1844 in the United Kingdom (Holyoake,2020). The society laid several principles to ensure that the society's activities were carried out efficiently by ensuring equitable distribution of resources, democratic participation, open membership, and community development. Over the last decade, the financial performance of these societies was largely impacted by market conditions, regulatory changes, and internal governance practices and even during the 2007/2008 global crisis (Gatauwa, 2014).

Between 2017 and 2022, cooperative societies in England and other European countries experienced fluctuating financial performance due to market volatility and economic uncertainties. The Brexit referendum in 2016 introduced significant economic and political uncertainty, affecting market stability and consumer confidence. This uncertainty persisted in the following years, impacting the operations and financial outcomes of many cooperatives. However, cooperatives with strong governance frameworks, diversified income streams, and robust internal controls were better positioned to navigate these challenges. Effective board composition and responsibility played a pivotal role in steering cooperatives through this turbulent period, ensuring resilience and sustainability (Cuznetov, 2022; Momanyi & Gatauwa, 2024).

In Canada, agricultural cooperatives have generally performed well financially between 2017 and 2022. Strong corporate governance and effective internal controls have been key factors in their success. The Canadian Cooperative Association reported that agricultural cooperatives maintained steady revenue growth, with a significant portion of the cooperatives reporting profitability

improvements due to enhanced governance practices. The average net profit margin for agricultural cooperatives in Canada ranged between 5% to 7% during this period, reflecting robust financial health (Co-operatives & Mutuels Canada, 2022).

In Africa, agricultural cooperative societies in most countries have experienced a decline in their financial performance largely attributed to inefficient internal management practices and weak governance structures that led to low revenue growth and minimal profit margins (Masango, 2015). According to Baiyegunhi, Majokweni, and Ferrer (2019), agricultural cooperative societies in South Africa between 2017 to 2022 was underwhelming. The average revenue growth of several cooperatives societies indicated a stagnated performance with some experiencing a declines while others dissolved. The average net profit margins of the cooperatives were 1% to 2%, reflecting the inefficiencies and poor governance structures. Masango, (2015) found that an average total revenue for agricultural cooperatives in Limpopo decreased from approximately ZAR 3 billion in 2017 to ZAR 2.8 billion in 2020, representing a negative growth rate of around 2.3%.

The formation of agricultural cooperative societies in Ethiopia was prompted by the need to enhance market access, reduce overproduction, and improve livelihoods among small-scale farmers. The performance of these societies has been enhanced through strong legislation and government control mechanisms that have ensured that the firms adhere to appropriate internal controls and good governance practices (Mojo, Fischer & Degefa, 2017). Between 2017 and 2022, the financial performance of the cooperative societies indicated a decline in their performance, reporting an average annual revenue growth of approximately 5% to 6% with an average net profit margin of 3% to 4%.

The history of agricultural cooperative societies in Kenya dates back to 1923 when the Kenya Farmers Association was established. Cooperative societies in the country have played a critical role in enhancing the productivity of farmers, improving market access, educating farmers on efficient farming practices, and access to affordable farm inputs (Odhiambo, 2019). After independence, the government emphasized using farmer cooperative societies to commercialize the smallholder farm sector. This goal was achieved in the late 1900s when most of the small-scale farmers were able to own their farms and produce a variety of agricultural goods for the commercial market. However, the financial performance of these cooperatives has seen a decline in recent years (Amenya & Ombui, 2016; Kiragu & Okibo, 2014).

The Kenyan government introduced a policy in 2019 aimed at improving the performance of agricultural cooperative societies. The policy includes measures to promote good governance practices such as regular audits, transparent reporting, and providing training for cooperative leaders (Saina, 2019). However, despite these efforts, there have been inconsistencies in implementing these policies, leading to ongoing financial mismanagement and inefficiencies, leading to poor performance. For example, data from the Kenya National Bureau of Statistics (2019) shows that many agricultural cooperative societies reported a decrease in revenues and profit margins. Some reported average revenues of less than 2%, while others experienced negative growth.

Several studies have pointed out the challenges faced by cooperative societies. Odhiambo (2019); Ameyna & Ombui (2016); Mutunga & Gatauwa (2021) highlighted that many cooperatives struggle with liquidity issues, affecting their ability to meet short-term obligations due to governance issues. Kiragu & Okibo (2014) also noted that operational inefficiencies and high costs lead to low profit margins for these societies due to weak internal controls. Furthermore, Saina (2019) revealed that poor governance practices contribute to declining performance. On average, the net profit margin for cooperative societies decreased from 3% in 2017 to less than 1% in 2018. Additionally, the debt-to-equity ratio exceeded 2, indicating heavy reliance on borrowed funds due to financial instability

Board Composition

Effective governance in an organization relies on three key pillars: appropriate composition of the board of directors, ensuring board independence, and full disclosure of the board's activities (Farooq *et al.*, 2021). The board must have skilled individuals who can contribute to an efficient and effective decision-making process to enhance financial performance. Additionally, the attributes of the board determine the extent to which it will be transparent in its operation, the efficiency of its day-to-day operations, and its ability to manage risks. According to Galletta *et al.* (2021), the efficiency and effectiveness of the board can instill investor confidence, leading to increased commitment to the course of the firm.

Agricultural cooperatives differ from traditional corporate entities because they are member-owned and operate with dual objectives: maximizing profits and promoting members' welfare. Findings on board composition, independence, and diversity apply uniquely to agricultural cooperatives. Appropriate board composition ensures that agricultural cooperatives benefit from diverse expertise. Board members who are both farmers and professionals can combine practical farming knowledge with strategic business insights. Studies in Kenya reveal that agricultural cooperatives led by professionally skilled board members achieve better financial outcomes compared to those led solely by farmer-directors (Nyaga & Wambua, 2021).

For most organizations, an ideal board should have members with varied skill sets, different tenures, and diverse backgrounds (Younas, Klein, Trabert, & Zwergel, 2019). The diversity of the personalities and individual characteristics of the directors is crucial in determining the manner in which they interact with each other and with the stakeholders. The directors have unique traits and characteristics that influence how they fulfill their roles, such as strategic formulation, implementation and evaluation, and the ability to assess and manage risks (Roudaki, 2018).

A board that is made up of both internal (executive) and external (non-executive) directors combines the knowledge and expertise of internal executives with the objectivity and oversight of external directors (Mlay, Temu, & Mataba, 2022). The board enjoys diverse expertise, enhanced compliance with regulations, and strategic guidance, leading to improved stakeholder confidence. In agreement with the debate on the influence of board composition on financial performance, Jadah *et al.* (2016) posit that the primary role of the outside directors is to provide a neutral perspective and help resolve agency conflicts that may arise within the cooperative society. There is unresolved debate on the optimal board size; according to Naciti (2019), firms with a diverse board and appropriate diversification of the role of the CEO tend to perform better. However, the

firm's performance tends to decline when there are more external directors than internal directors (Kyazze *et al.*, 2017). Boards with a good balance of skills, expertise, diversity, and size were found to be more effective in fulfilling their responsibilities than those lacking these qualities. Larger companies with diverse and sizeable boards tend to oversee and implement ethical behavior more effectively.

Board independence is also critical for agricultural cooperatives. External directors bring an objective perspective that reduces conflicts of interest, ensuring that decisions prioritize the collective good over individual interests. This is essential in mitigating agency problems, where some board members might favor their personal farming operations. Independent directors also promote transparency and ethical governance, which enhances trust among members. Additionally, diversity in board composition, including variations in gender, age, and professional background, improves decision-making, problem-solving, and innovation. For example, Kenyan cooperatives that incorporate gender-balanced boards report higher member satisfaction and improved financial performance (Omondi *et al.*, 2022).

Ying and Rayappan (2020) argue that board independence could enhance internal controls, which could consequently improve the financial performance of the firm. Other empirical studies have also established that larger companies with bigger board sizes tend to have better diversity and ethical behavior, which leads to improved performance (Delima, 2017). Shahwan (2015) found that the size of the board influences the decision-making quality, which depends on the composition and characteristics of the board; however, the study did not establish the optimum size of the board.

The debate about the optimal board size remains unresolved due to varying organizational needs and contexts. Proponents of smaller boards argue that they facilitate faster decision-making, better communication, and reduced administrative costs. For small to medium-sized cooperatives, a smaller board may align well with limited operational demands (Ying & Rayappan, 2020). Conversely, advocates of larger boards emphasize the benefits of diversity, enhanced stakeholder representation, and improved oversight. Larger agricultural cooperatives with broad membership bases may require more directors to adequately represent diverse interests (Delima, 2017).

For agricultural cooperatives in Kenya, optimal board size depends on factors such as member population, geographical scope, and regulatory requirements. Research by Kinyua *et al.* (2021) highlights that Kenyan agricultural cooperatives with 7 to 11 board members achieve a balance between diversity and efficiency. Boards exceeding 15 members, however, often face coordination challenges and slower decision-making.

In Kenya, agricultural cooperatives provide valuable insights into the relationship between governance practices and performance. A study by Wanyama and Ochieng (2023) found that dairy cooperatives with 9–12 board members performed better financially than those with fewer than 7 members, with diversity playing a significant role. Additionally, gender representation has become a focal point in governance reforms for cooperatives. Gender-inclusive boards are increasingly common in Kenya's tea and coffee cooperatives, supported by initiatives from the Kenya Cooperative Alliance. Cooperatives with at least 30% female board representation report improved collaboration and innovation (Chebet *et al.*, 2022).

Board independence is still underutilized among Kenyan agricultural cooperatives due to limited regulatory requirements. However, larger cooperatives, such as those managed by the Kenya Tea Development Agency (KTDA), have introduced independent board members to enhance governance and reduce conflicts of interest. The KTDA Annual Report (2023) highlights the benefits of independent directors in improving decision-making and ensuring fair representation of member interests.

Firm Size

Firm size is an important aspect of corporate finance that can significantly influence a firm's financial performance (Buallay et al., 2017). Larger firms often have the advantage of issuing more shares and easily accessing external funding due to increased sales growth. Moreover, they tend to have more complex organizational structures and governance mechanisms (Abang'a et al., 2022). Unlike smaller firms, larger companies typically have bigger boards with a diverse range of expertise, which enhances decision-making processes and contributes to better financial management and outcomes.

The size of a company can help differentiate it from others in terms of its total number of assets, capital base or market capitalization, and number of employees (Ayuba *et al.*, 2019). According to Wasike (2017), the size of a company can reflect its ability to adapt to change in both macro and micro, which can have a direct or indirect impact on its financial performance. Factors such as auditing standards, capital structure, and management structure can all affect a company's financial performance since they influence the quality and efficiency of decision-making. Detthamrong *et al.* (2017) argue that large companies are subjected to stricter regulatory oversight, ensuring that their governance practices are transparent and in line with industry standards.

In terms of financial performance, firm size presents both challenges and opportunities. For instance, larger firms benefit from economies of scale, allowing for efficient operations, bulk purchasing, and advantageous negotiation terms. Unlike smaller firms, larger firms have easy access to capital markets, which enables them to invest more in innovation, expansion, and research and development. Scholars have debated the relevance of firm size on the relationship between corporate governance and financial performance, albeit with mixed findings.

Past studies have established mixed findings on the relationship between corporate governance, firm size, and financial performance. For instance, Research by Mahzura (2018) found that ownership structure and size positively affect the relationship between corporate governance and financial performance. Lopez-Valeiras *et al.*, (2016) found that larger companies have a negative correlation with financial performance; asset growth, sales growth, and firm size have a positive influence on financial performance.

According to Pratama and Wiksuana (2016), large companies are more transparent in managing cooperative societies' businesses, and the board is more responsible for executing their duties as there are more internal controls and checks than in small agricultural cooperative societies. Similarly, Dzingai and Fakoya (2017) found a significant correlation between corporate governance, firm size, and financial performance of companies listed on the Johannesburg Stock Exchange. They recommended that companies' management determine an appropriate level of tangible asset maintenance, leading to a higher liquidation value for society's assets.

Larger cooperative societies often exhibit stronger governance structures, with diverse and skilled boards, due to their access to more resources. This leads to improved decision-making processes, better financial management, and enhanced resilience in the face of market uncertainties. Larger cooperatives also benefit from economies of scale, which reduce operational costs and increase profitability. For instance, large tea cooperatives in Kenya like the Kenya Tea Development Agency (KTDA) have leveraged their size to establish robust governance frameworks and achieve superior financial performance (Wanyama & Ochieng, 2023).

The size of agricultural cooperatives also determines their ability to access external funding and invest in innovative practices. Large cooperatives such as the New KCC (Kenya Cooperative Creameries) have been able to invest in state-of-the-art processing facilities and implement international quality standards, enhancing their competitiveness in both local and global markets. Conversely, smaller cooperatives often struggle with limited resources and less sophisticated governance mechanisms, which can impede their growth and financial sustainability (Nyaga & Wambua, 2021).

In Kericho County, where agriculture is the backbone of the economy, firm size significantly influences the performance of cooperative societies. Larger cooperatives, particularly those involved in tea production, enjoy the advantage of scale in operations, enabling them to negotiate better terms for inputs and access broader markets. For instance, the Kericho Tea Farmers' Cooperative has used its size to secure partnerships with major exporters and financial institutions, ensuring stability and growth for its members.

Additionally, large cooperatives in Kericho County often have more robust governance structures, contributing to better financial oversight and risk management. These cooperatives can afford to hire skilled managers and implement advanced accounting systems, ensuring transparency and accountability. In contrast, smaller cooperatives may face challenges such as inadequate capital, limited access to markets, and weaker governance mechanisms, which can undermine their long-term viability (Kinyua et al., 2021).

One notable example in Kericho County is the Kapkatet Tea Farmers Cooperative, which has consistently demonstrated the benefits of its large size through improved member benefits and investment in processing facilities. The cooperative's size allows it to pool resources effectively, negotiate better prices for inputs, and access favorable credit terms. Similarly, the Sosiot Farmers Cooperative Society, though smaller, highlights the challenges faced by smaller entities, such as limited capital and dependence on middlemen for market access.

Financial Performance

Financial performance is a key measure of how effectively an organization achieves its long-term objectives through its operations, typically expressed in monetary terms (Al-Najjar, 2018). It reflects a firm's financial health and progress toward realizing its goals over a specified period (Odhiambo, 2019). For agricultural cooperative societies in Kericho County, financial performance is particularly crucial as it determines their ability to sustain operations, meet members' expectations, and drive economic growth in the region.

Evaluating financial performance allows stakeholders to assess management's efficiency and competence while enabling comparative analysis. This is particularly important for agricultural cooperatives in Kericho County, where benchmarking against other societies can identify areas for improvement. Financial performance can be evaluated through financial statements such as the statement of financial position, profit or loss statement, comprehensive income, and cash flow statements (Soboh et al., 2019). Commonly used objective metrics include net profit margin, return on assets (ROA), return on equity (ROE), and return on investment (ROI).

For agricultural cooperatives, use of metrics like net profit margin and ROI are particularly critical. Net profit margin reflects the efficiency with which a cooperative converts revenue into actual profit, an essential factor for societies that rely on collective marketing and sales. Return on investment (ROI), on the other hand, measures how well a cooperative utilizes its resources to generate returns, highlighting the effectiveness of investments in equipment, storage facilities, or new ventures (Barus, 2016; Batchimeg, 2017).

Agricultural cooperatives in Kericho often encounter unique challenges that require tailored financial metrics for evaluation. Small-scale tea, dairy, and coffee farmers, for example, rely heavily on their cooperatives to provide market access, competitive pricing, and essential services such as credit and input supply. Financial performance metrics like ROI can help these cooperatives assess the impact of such services on overall profitability and sustainability. The financial performance of cooperatives is also closely tied to their governance structures and the active participation of members. According to the Department of Trade, Industrialization, Cooperative Management, Tourism, and Wildlife's annual report for 2022, Kericho County is home to 54 agricultural cooperative societies, which collectively generated Kshs 846,745,000 in revenue. However, a significant portion of their potential remains untapped due to the low volume of produce handled. This shortfall is attributed to inactive membership and governance challenges, such as mismanagement and limited financial oversight.

Successful cooperatives in Kericho, like the Kapkatet Tea Farmers' Cooperative, demonstrate how effective governance and sound financial management can lead to improved financial performance. This cooperative has adopted robust ROI-based evaluation methods, ensuring that investments in processing facilities and market access initiatives yield tangible benefits for its members. Conversely, smaller and less organized societies often struggle with inefficiencies, reducing their ability to compete and attract active participation from members.

Most agricultural cooperatives in the county face macro and micro challenges, such as fluctuating market prices, manipulative middlemen, and resource constraints. These issues affect their ability to deliver quality services and diversify into new business areas. The financial performance of cooperatives is also impacted by their operational efficiency and member participation. For example, societies with transparent governance and effective financial management are better positioned to negotiate favorable terms with buyers, secure funding for expansion, and distribute profits equitably.

Focusing on key financial metrics and adopting innovative governance strategies, agricultural cooperatives in Kericho can unlock their potential for growth and sustainability. Metrics like ROI and net profit margin not only offer insights into current performance but also guide decision-

making for future investments. Furthermore, the use of financial performance measures tailored to the unique challenges of Kericho County's cooperatives can foster economic empowerment for smallholder farmers and strengthen the cooperative movement in the region.

Research Hypothesis

H₀₁: Board composition has no statistically significant influence on the financial performance of Agricultural cooperative societies in Kericho County, Kenya.

H₀₂: Firm size has no statistically significant moderating effect on the relationship between corporate governance and the financial performance of Agricultural cooperative societies in Kericho County, Kenya.

LITERATURE REVIEW

Theoretical Review

The study is grounded in Agency Theory, a concept introduced by Jensen and Meckling (1983) to address the separation between ownership and control in organizations. This theory examines the relationship between agents (managers) and principals (owners) within cooperative societies, where the board of management is elected by the owners as their representative agents and subsequently delegates authority to the managers. Central to agency theory are two main assumptions: the conceptual division between owners and managers, and the idea that managers and employees will typically act in their own self-interest. As such, principals expect the agents to make decisions that align with their interests. However, agents may not always act in the best interests of the principals, as they may be motivated by personal gain, leading to the possibility of opportunistic behavior.

Agency theory highlights the critical role of the board in safeguarding the interests of the principals by overseeing management and ensuring compliance with organizational goals (Gwala & Mashau, 2023). As noted by Shi, Connelly, and Hoskisson (2017), the board's responsibilities under agency theory include endorsing managerial decisions and monitoring their execution. Without proper oversight, agents may exploit situations to their benefit at the expense of the principals, which necessitates the imposition of controls to ensure agents act in the best interest of shareholders. One such control is the employment of external auditors to monitor the management's activities, although this incurs monitoring costs for the principals.

In the context of agricultural cooperatives in Kenya, agency theory is relevant because stakeholders entrust the management of the cooperative societies to the board of management, who act as agents. The board is responsible for ensuring that the stakeholders' interests are protected and that the cooperative's financial performance is optimally managed. Therefore, the agency theory provides a useful framework for understanding the relationship between the principals (stakeholders) and the agents (board and management) in agricultural cooperatives, particularly with regard to financial performance.

While Agency Theory provides valuable insights into the dynamics between agents and principals, its application to agricultural cooperatives, particularly in Kenya, faces several limitations. One limitation is the assumption of self-interest and opportunism in agents. Agency theory assumes that agents (managers) are primarily driven by self-interest, which may not always hold true in the

Kenyan context. In many agricultural cooperatives, cultural factors and community-based values play a significant role in decision-making. Cooperative leaders in Kenya are often deeply embedded in the community, and their actions may reflect a stronger sense of duty toward their members, rather than opportunistic behavior. This cultural dimension may limit the applicability of agency theory, which tends to emphasize conflict and self-interest in agency relationships.

Additionally, agency theory often prioritizes financial performance as the primary measure of agent effectiveness. However, in agricultural cooperatives, non-financial objectives such as community development, social welfare, and access to markets may be just as important as profitability. Agency theory's narrow focus on financial incentives may overlook these broader objectives, which are critical for the sustainability and long-term success of agricultural cooperatives.

In conclusion, while Agency Theory provides a solid theoretical foundation for examining the relationship between agents and principals in agricultural cooperatives, its applicability in the Kenyan context is subject to limitations, particularly in relation to cultural factors, weak enforcement of controls, and the broader range of stakeholder interests. These challenges suggest that a more contextualized and integrated approach may be necessary to fully understand and address the complexities of cooperative management in Kenya.

Empirical Review

Board Composition and Financial Performance

Board composition refers to the characteristics of a board of directors, such as gender diversity, board size, and the proportion of non-executive (independent) and executive directors (Al-Shaer et al., 2023). The economic value of having a suitable board of directors' composition has been a subject of debate among scholars. Some argue that organizations with a larger number of outside directors face fewer agency problems than those with fewer directors (Jadah *et al.*, 2016). On the other hand, having a smaller number of directors is considered more resourceful and efficient in aligning the interests of shareholders and management (Omware *et al.*, 2020). Boards of directors are typically selected through a well-controlled process that ensures the correct number and mix of qualified individuals to hold office.

Individuals who seek to serve as board directors should be able to manage, protect, and add value to the stakeholders' interests. The board should always endeavor to ensure the survivability of the cooperative society by clearly defining the business objective of the society and setting appropriate strategies for attaining the same (Ying & Rayappan, 2020). According to Anyanga (2014), board characteristics entail board attributes, including board diversity, board size, board independence, and CEO duality. These characteristics are assessed to examine their influence on the company's capability to manage its assets, make quality decisions, as well as improve its financial performance.

Grashuis (2019) explored farmer cooperatives' ownership, governance, and performance, finding that management diversity influenced cooperative performance. The study's systematic review of literature and focus on cooperative societies using quantitative methods provided useful insights into the relationship between governance and performance. The findings on the influence of membership characteristics, such as input adoption and income, are relevant to agricultural

cooperatives in Kenya. However, the study's focus on broader cooperative issues and lack of contextual focus on Kenya's unique challenges limit direct application.

Al-Shaer et al. (2023) examined the relationship between board composition and corporate strategy in the United Kingdom, focusing on the mediating role of board tenure, independence, size, and gender diversity. The findings that board characteristics significantly influence firm value provide important insights into governance but are less applicable to agricultural cooperatives in Kenya due to differences in organizational structure and the nature of the economy. While the study used financial performance indicators like return on investment, it did not focus on the specific types of cooperatives found in Kenya, such as agricultural cooperatives.

Wijethilake, Ekanayake, and Perera (2015) focused on board participation in corporate governance in developing countries, finding a positive correlation between corporate performance and external board members, CEO duality, and board shareholding. The study's focus on developing nations makes it more applicable to Kenya's context, especially with regard to the role of external or independent board members. However, the lack of a specific focus on agricultural cooperatives and the absence of factors like cooperative-specific goals may reduce its applicability to the unique needs of these societies.

Sebhatu et al. (2021) explored variability across agricultural cooperatives in Northern Ethiopia, highlighting the importance of membership size, assets, and board member heterogeneity. The study's findings that membership size and asset wealth positively impacted performance are particularly relevant for agricultural cooperatives in Kenya, where cooperative performance often depends on member engagement and asset management. However, the lack of a strong relationship between the internal organization and chairperson characteristics may limit the applicability of the findings to Kenyan cooperatives, where leadership quality is often key to success.

Sarhan, Ntim, and Al-Najjar (2019) assessed the impact of board diversity on corporate performance in North African and Middle Eastern countries, highlighting the importance of nationality, ethnicity, and gender in enhancing corporate performance. While the findings on the positive influence of board diversity are relevant to Kenya, where diversity is becoming an increasing focus, the context of North African and Middle Eastern countries may not fully reflect the unique governance challenges faced by agricultural cooperatives in Kenya, which often involve more localized and community-oriented boards.

Mojo, Fischer, and Degefa (2017) focused on coffee farmer cooperatives in Ethiopia and examined factors influencing membership and the economic impacts of cooperatives. The study's focus on member characteristics like education level and family size provides valuable insights for Kenyan agricultural cooperatives, particularly in areas like membership recruitment and retention. The study's use of household surveys and focus group discussions provides a deeper understanding of member engagement, which is crucial for agricultural cooperatives in Kenya. However, the Ethiopian context may differ in certain ways from Kenya's agricultural environment, affecting the direct transferability of some findings.

Omware et al. (2020) explored corporate governance and financial performance in commercial banks listed on the Nairobi Securities Exchange (NSE). While the study's focus on board composition, such as gender diversity and board size, aligns with governance challenges in Kenya,

the specific focus on commercial banks limits its relevance to agricultural cooperatives. The different financial structures and goals of commercial banks compared to agricultural cooperatives, such as community development objectives in cooperatives, mean that the study's findings need to be interpreted with caution in the context of agricultural societies.

Njenga (2018) examined the effect of corporate governance on financial performance in commercial and service enterprises listed on the NSE. The findings on the influence of board diversity and size are relevant for the Kenyan context, especially given the emphasis on governance reforms in various sectors. However, the study's focus on listed companies contrasts with the smaller-scale, community-driven nature of agricultural cooperatives, suggesting that more specific studies on cooperative governance are needed to draw accurate conclusions for Kenya's agricultural cooperatives.

Corporate Governance, Firm Size and Financial Performance

Debby et al. (2014) examined the impact of corporate governance variables on firm value, revealing that ownership structure and board composition negatively influenced firm performance, while firm size and return on equity had positive effects. For agricultural cooperatives in Kenya, the findings on the positive influence of firm size and return on equity are particularly applicable, as larger cooperatives may have more resources and capacity to implement effective governance. However, the negative relationship between governance structures like ownership and board composition may not be as relevant for cooperatives, where governance often emphasizes member participation over formal ownership structures. The study's broader focus on corporate governance limits its direct applicability to the more community-focused nature of agricultural cooperatives.

Detthamrong et al. (2017) explored the role of corporate governance in Thai firms. The study used a panel sample of 493 non-financial firms listed in the Thailand securities exchange between 2001 and 2014. The findings revealed that governance variables, including ownership and board independence, did not significantly impact performance, while financial leverage played a key role. This finding suggests that in Kenya's agricultural cooperatives, financial leverage, such as loans or credit lines, may be more influential in shaping performance than governance alone. The study's emphasis on board independence and ownership structure, however, is less relevant for agricultural cooperatives, where governance tends to be more informal, and decision-making is centered around community involvement rather than external governance factors. This highlights the need for governance frameworks tailored to the cooperative context.

Khongmala and Distanont (2017) highlighted the moderating role of management systems on the relationship between corporate governance and financial performance in Thai firms. This insight is highly relevant for agricultural cooperatives in Kenya, where the strength of management systems is crucial for operational efficiency. Agricultural cooperatives in Kenya often operate with less formalized management structures, so the quality of management becomes a significant factor in how governance impacts performance. While the study emphasizes the role of management systems, its focus on larger corporate settings with formal governance may limit the applicability to Kenya's more informal and member-driven agricultural cooperatives.

Buallay et al. (2017) examined the relationship between corporate governance and firm performance of listed companies in the Saudi stock exchange. Financial performance was measured by Tobin Q, ROE, and ROA. The study also measured the effect of firm size, firm age, and audit quality control variables on the relationship between corporate governance and financial performance. Pooled data for the study was obtained from a sample of 171 listed companies. The study found a positive relationship between corporate governance and firm performance, with firm size acting as a moderating variable. This finding aligns well with the context of agricultural cooperatives in Kenya, where larger cooperatives might be better equipped to implement robust governance practices. However, the study's reliance on market-based performance indicators like Tobin Q is less applicable for agricultural cooperatives, as they are typically not publicly traded and do not have market values to assess. For Kenyan agricultural cooperatives, alternative performance measures such as net profit margin or return on investment would provide a more accurate picture of financial success.

Mahzura (2018) examined the relationship between ownership structure, financial performance, leverage, company size, and the company's corporate governance values in the Indonesian food industry. The study examined financial performance using profitability ratios such as return on equity, leverage, company size, managerial ownership, ownership structure, and corporate governance. The study relied on secondary data and adopted a causal associative research design with a target population of 14 food companies listed between 2012 -2016 in Indonesia's security exchange. The study found that leverage and return on equity influenced firm value, while other governance variables had minimal impact. For Kenyan agricultural cooperatives, financial leverage and return on equity are crucial in assessing financial performance, as many cooperatives rely on loans to fund their operations. However, the limited effect of other governance variables, such as ownership structure, may not fully reflect the governance challenges faced by cooperatives in Kenya, where internal governance structures are often driven by member participation rather than formal ownership.

Dzingai and Fakoya (2017) explored the relationship between board size and financial performance, finding weak negative associations with return on equity and a positive but weak relationship with board independence. This suggests that governance practices, particularly board size, may not significantly affect performance in Kenyan agricultural cooperatives, which often operate with smaller boards and more community-focused decision-making processes. The study's findings may be less relevant for cooperatives in Kenya, where member involvement in decision-making is a critical factor for success, and board composition is less formalized compared to corporate settings.

Ayuba et al. (2019) examined the impact of financial performance, capital structure, and firm size on Nigerian insurance firms, highlighting the moderating role of firm size. This finding is relevant for Kenyan agricultural cooperatives, where firm size can significantly influence governance practices and financial outcomes. However, the study's focus on insurance firms may not be fully applicable to agricultural cooperatives, which have different operational structures and goals. Nonetheless, the emphasis on capital structure and firm size provides useful insights into the factors that influence performance in cooperatives, particularly in terms of managing financial resources and optimizing operations.

Wasike (2017) studied corporate governance and performance in Kenyan financial institutions, emphasizing the influence of governance attributes like board size and gender diversity. While these findings are relevant for the Kenyan context, they are more applicable to financial institutions than to agricultural cooperatives. Agricultural cooperatives operate with different financial structures and goals, prioritizing community development and member welfare over profitability. Therefore, while the study's findings on gender diversity and board composition are valuable, their application to the agricultural sector may require adaptation to reflect the unique characteristics of cooperatives.

Abang'a et al. (2022) explored the relationship between corporate governance and financial performance in Kenyan state-owned enterprises, focusing on board size and gender diversity. This study's findings on the positive but minimal effect of governance attributes on performance align with the challenges faced by agricultural cooperatives in Kenya, where governance structures tend to be less formal and more community-driven. While the findings are applicable in terms of highlighting the role of board composition, the study's focus on state-owned enterprises with more formal governance structures may limit its direct applicability to agricultural cooperatives, where governance is more decentralized and member-driven.

METHODOLOGY

The study adopted a positivist research philosophy to maintain an objective perspective in analyzing the relationship between board composition and financial performance of agricultural cooperative societies. A descriptive cross-sectional research design was used, which is ideal for answering "how" and "why" questions and testing hypotheses (Gatauwa, 2020; Gatauwa, et al. 2024). This design combines the strengths of both descriptive and cross-sectional approaches, allowing for a deeper understanding of variable relationships. Furthermore, it provides accurate and valid representations of phenomena under study, reducing uncertainties (Creswell & Creswell, 2017). The study focused on 81 agricultural cooperative societies in Kericho County that were operational between 2017 and 2022. This allowed the researcher to collect 270-panel data points across six years for the cooperatives, making it suitable for running a static panel regression analysis. The data, which was quantitative, was gathered from secondary sources, specifically financial statements. These included the statement of financial position, statement of profit or loss, other comprehensive incomes, and the statement of cash flows, extracted through data collection methods.

FINDINGS AND DISCUSSION

This section presents the study's findings, which were analyzed using descriptive and inferential statistics based on specific objectives.

Correlation Analysis

The study carried out Pearson Moment Correlation Analysis to assess the nature of the relationship between board composition and financial performance of the agricultural societies.

Table 1: Correlation Analysis for Return on Investment

	Return on Investment	Board Composition
Return on Investment	1.0000	
Board Composition	0.2665*	1.0000

*5 percent level of significance

Source: Research Data (2024)

The findings presented in Table 1 indicate that the relationship between board composition ($r=1.000$; $p<0.05$), and return on investment of agricultural cooperative societies was positive and statistically significant. These findings imply that a positive correlation between board composition and return on investment means that a more effective board composition characterized by a diverse mix of gender and the number of directors tends to be associated with improved financial performance. These findings are supported by Grashuis (2019), Sarhan et al. (2019), and Fuente *et al.* (2017), who established a significant correlation between board composition, financial performance as measured by return on investment.

Panel Regression Analysis

Panel regression was performed in order to test the influence of board composition and the return on investment of agricultural cooperative societies. The null hypothesis that was tested for ROI was:

H_{01} : Board Composition has no statistically significant effect on the return on investment of agricultural cooperative societies in Kenya

Table 2. Regression Analysis for Return on Investment

	Coef.	Std. Err.	Z	P> Z	[95% Conf. Interval]	
Return on Investment						
Board Composition	-1.39e-06	2.20e-07	-6.32	0.000	-1.82e-06	-9.60e-07
_cons	0.0001112	.0001081	1.03	0.304	-0.0001008	0.0003231
R Square (Within) = 0.9994						
R Square (Between) = 0.9998						
R Square (Overall) = 0.9995						
corr(u_i, X) = 0 (assumed)						
Wald chi2(3) = .						
Prob > chi2 = .						
sigma_u 0						
sigma_e = 0.00179611						
rho = 0						

Source: Research Data (2024)

The results presented in Table 2 Indicate that the R^2 for the influence of board composition and return on investment is 0.9995. This suggests that board composition practices significantly influence the return on investment in agricultural cooperative societies. Further, the study established that a unit increase in board composition reduces the cooperative societies' financial performance by -1.39250. The Y-intercept term is 0.0001112, which represents the portion of the financial performance of agricultural cooperative societies not affected by board composition practices.

The first hypothesis of the study was that board composition has no statistically significant effect on the return on investment of agricultural cooperative societies in Kenya. The results obtained for the hypothesis at a confidence level of 95% indicate a beta value of $\beta = -1.39e-06$, $p\text{-value} = 0.000 < 0.05$, and the $t\text{-value} = -6.32 < 1.96$. The negative statistical coefficient implies that the composition of the board of management has an inverse relationship with return on investment. This means that an increase in a unit of the number of directors and expertise diversity in the board of management caused a decrease in return on investment by $-1.39e-06$ percent.

These findings are supported by those of Mlay et al. (2022), which established that board attributes such as gender diversity and board size had no significant relationship with the financial performance of Saccos in Tanzania. However, the study findings contradict those of Grashuis (2019), who established that board composition in terms of number of directors and diversity had an influence on the performance of the cooperatives; in addition, the study also established that there was unequal distribution of benefits for large and small cooperatives. However, this study was a systematic review of the literature. Similarly, Sarhan et al. (2019) established a positive relationship between board composition and financial performance.

Test for Moderated Effect

The study sought to examine the moderating effect of firm size on the relationship between board composition and financial performance (ROI). The moderating effect of firm size was tested using Whisman and McClelland's (2005) two-step model. The first step in this model involved running the moderator as an independent variable in addition to other explanatory variables. If the obtained coefficient of the variable (firm size) is significant (< 0.05), the study concludes that the moderating variable is an independent variable. If the variable is insignificant, then the second step is carried out, including the interaction term of the moderator on each predictor variable.

Table 3: Board Composition, Firm Size and Return on Investment

Return on Investment	Coef.	Std. Err.	Z	P> Z	[95% Conf. Interval]	
Board Composition	-1.89200	1.99e-07	-9.49	0.000	-2.28e-06	-1.50e-06
Firm Size	.0179732	.0018912	9.50	0.000	.0142665	.0216799
_cons	.0001509	.0000946	1.60	0.111	-.0000345	.0003363
R Square (Within) = 0.9996						
R Square (Between) = 0.9998						
R Square (Overall) = 0.9996						
corr(u_i, X) = 0 (assumed)						
sigma_u 0						
sigma_e = .00157154						
rho = 0						

Source: Research Data (2024)

The results presented in Table 3 revealed a R^2 of 0.9996 which suggests that board composition practices and firm size, significantly influence the financial performance of agricultural cooperative societies. Further, the study established that board composition has a negative coefficient of -1.89200 with a P-value of $0.000 < 0.05$ and Firm size had a positive coefficient of 0.0179732 and a p-value of $0.000 < 0.05$. The Y-intercept term is 0.0001509 which represents the

portion of the financial performance of agricultural cooperative societies not affected by corporate governance practices.

Table 4: Moderating Effect of Firm Size

Return on Investment	Coef.	Std. Err.	Z	P> Z	[95% Conf. Interval]	
Board Composition	-1.39001	2.20000	-6.32	0.000	-1.82e-06	-9.60000
Firm size	.0128843	.00185	6.96	0.000	.0092584	.0165103
Firm Size*Board Composition	.0000443	3.98e-06	11.11	0.000	.0000365	.0000521
_cons	.0001522	.0000784	1.94	0.052	-1.49e-06	.0003059
R Square (Within) = 0.9997						
R Square (Between) = 1.0000						
R Square (Overall) = 0.9997						
corr(u_i, X) = 0 (assumed)						
Wald chi2(7) = .						
Prob > chi2 = .						
sigma_u = 0						
sigma_e = 00128198						
rho = 0						

Source: Research Data (2024)

The moderation effect result presented in Table 4 involved running firm size as an independent variable. The other coefficients presented in the table were extracted from the direct relationship model results presented in Table 3. The study revealed an R-square value of 0.9997, which implies that a 99.9% change in the return on investment of the agricultural cooperative societies could be explained by the independent variable of the study, which was board composition. The findings revealed that the p-values for board composition ($p=0.0000$, <0.05) was significant. As per the recommendation of Whisman and McClelland (2005), when the moderator (firm size) variable is significant, then the null hypothesis that firm size is an explanatory variable is accepted, and the alternative hypothesis that firm size is a moderator variable is rejected.

The regression results reveal that firm size had a significant positive moderating effect on the relationship between board composition and financial performance of the agricultural cooperative societies, as indicated by the p-values ($p=0.0000<0.05$). These findings are supported by those of Debby, Mukhtaruddin, *et al.* (2014), which established that firm size has a significant moderating effect on the relationship between board characteristics and financial performance. In contradiction, Singh, *et al.*, (2019) established that firm size had a negative moderating effect on the relationship between corporate governance and the financial performance of agricultural cooperatives in the United States of America. This contradiction could be attributed to the different contexts in which these studies were carried out.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The objective of this study sought to assess the influence of board composition on the financial performance of agricultural cooperative societies. Board composition was proxied by the number of directors and the gender of the board of management of the agricultural cooperative societies. Financial performance was measured by return on investment. The study established that, on average, the board of the agricultural cooperative societies was composed of 16.2% female

directors with a variation of 12.5 over the period of study. The correlation research findings established that board composition had a positive correlation with the return on investment of the agricultural cooperative societies ($r=0.2665$; $p<0.05$). The regression analysis results established that at a confidence level of 95%, board composition had a negative but significant relationship ($\beta= -1.39e-06$, $p\text{-value}= 0.000 <0.05$) with the return on investment of the agricultural cooperative societies. Therefore, the study concluded that the number of directors and their gender does not have any influence on the financial performance of the cooperative societies. Previous studies have also supported these findings. Secondly, the study concluded that board responsibility is a key drive in enhancing the financial performance of agricultural cooperative societies. Therefore, agricultural cooperative societies need to enhance and improve oversight of the responsibility of the directors so as to improve their return on investment and net profit margins.

The findings of this study align with previous research on the impact of board composition on organizational performance, though the unique context of agricultural cooperative societies introduces some nuanced implications. For instance, Debby et al. (2014) found that board composition, including the number of directors and gender diversity, negatively influenced firm performance, while larger firm size positively impacted financial outcomes. This mirrors the regression analysis results of the present study, which demonstrated a negative but significant relationship between board composition and return on investment, suggesting that structural aspects of boards may sometimes hinder financial outcomes if not effectively managed. Similarly, Dzingai and Fakoya (2017) discovered weak negative associations between board size and financial performance, highlighting the inefficiencies and coordination challenges larger boards may introduce, especially in resource-constrained settings like agricultural cooperatives.

Other studies further substantiate these findings. Khongmala and Distanont (2017) emphasized the need for effective management systems to moderate the governance-performance relationship, suggesting that governance mechanisms, such as board composition, must be paired with strong management practices to achieve positive financial outcomes. Likewise, Sebhatu et al. (2021) observed that board member diversity, including gender representation, had mixed impacts on cooperative performance in Ethiopian agricultural settings, underscoring the importance of operational context in determining governance effectiveness. These findings highlight the need for tailored strategies to optimize board composition and governance practices to suit the unique needs of agricultural cooperatives

Recommendations

From the findings and subsequent conclusions, this study recommends several specific initiatives. First, mandatory training programs for directors should be implemented to enhance their governance capabilities. These programs should include modules on financial oversight, strategic decision-making, investment planning, and cooperative-specific challenges. Regular workshops on emerging trends in agriculture and cooperative management can also equip directors with the skills needed to address dynamic sectoral challenges. Second, introducing quotas for gender diversity can help promote inclusivity and bring diverse perspectives to board decision-making. Policies requiring at least 30% of board members to be women could ensure balanced representation and better leverage the unique contributions of female leaders. Partnerships with

women's organizations and agricultural networks can support the identification and preparation of female candidates for leadership roles within cooperatives.

In addition, clear board composition guidelines should be developed to optimize the number of directors on cooperative boards. While diversity and representation are critical, excessively large boards may hinder decision-making efficiency. Therefore, cooperatives should aim for a balanced composition that includes members with expertise in finance, agriculture, and governance to strengthen strategic alignment. Performance-based accountability mechanisms should also be introduced to ensure that board members are held to measurable performance standards. This could include tying board responsibilities to specific financial or operational targets, such as ROI goals or operational efficiency benchmarks. Regular evaluations and feedback from cooperative members can further ensure that boards remain aligned with organizational objectives.

Finally, policymakers and regulators should consider reforms that promote best practices in governance. These could include tax incentives for cooperatives achieving governance benchmarks or financial assistance for implementing training programs. Technical support and funding for under-resourced cooperatives seeking to improve their governance structures would also be beneficial.

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