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The Effect of Board Characteristics on the Financial Sustainability of Commercial State Corporations in Kenya

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Abstract
Boards of directors serve as a critical link between shareholders and management, guiding strategy, oversight, and long-term financial health. Effective boards mitigate agency conflicts, enhance decision-making, and foster accountability. This study examines the impact of board characteristics and firm size on the financial sustainability of commercial state corporations, addressing gaps in corporate governance research. Using a quantitative, cross-sectional approach, 32 out of 46 commercial state corporations were analyzed. Results show a negative but non-significant relationship between board characteristics and financial sustainability, contrasting with prior studies that suggest effective boards enhance performance. Firm size had a positive but non-significant association with financial sustainability. In contrast, the interaction between board characteristics and firm size was marginally significant and negative, indicating potential inefficiencies in larger organizations. The findings reveal the complexity of financial sustainability in state corporations, suggesting that board characteristics and firm size alone are insufficient to explain outcomes. Further research is needed to explore additional factors and contextual gradations influencing financial sustainability in state-owned enterprises.

Keywords: *Board Characteristics, Firm Size, Financial Sustainability, State Corporations*

1. Introduction

The board of directors is central to corporate governance, acting as a bridge between shareholders and management while overseeing strategic direction, financial sustainability, and risk management. Boards mitigate agency conflicts, monitor executives, and provide access to critical resources, directly influencing a firm's long-term success (Kocmanová, Hřebíček and Dočekalová 2011). Their effectiveness depends on composition, independence, diversity, expertise, and leadership structure, all of which shape decision-making and oversight.

Historically, boards focused on profitability and capital structure, but corporate scandals (e.g., Enron, Lehman Brothers) and the 2008 financial crisis exposed weaknesses in oversight and risk management. These events led to stricter regulations, emphasizing transparency, accountability, and long-term financial resilience (Financial Stability Board, 2008). Modern boards now balance short-term performance with sustainable growth, integrating ethical governance and stakeholder interests.

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Research shows that board characteristics significantly impact financial performance. Independent directors enhance objectivity (Ullah et al., 2024), while diversity fosters innovation (García-Sánchez et al., 2023). Specialized committees, like audit committees with financial expertise, improve reporting accuracy (Al-Shaer & Zaman, 2023). Strong boards correlate with higher returns, reduced fraud risks, and better crisis management (Nguyen et al., 2023). The board of directors is vital for ensuring financial sustainability through strategic oversight, risk management, and ethical governance. Their evolution reflects broader economic shifts, regulatory demands, and the need for resilience in a complex global market.

Commercial State Corporations (CSCs) in Kenya are government-owned entities mandated to operate commercially while fulfilling public service obligations (World Bank, 2021). Established through Acts of Parliament, these corporations play a vital role in Kenya's economic development by providing essential goods and services. However, they have historically faced significant challenges including inefficiency, mismanagement, and systemic corruption (Kariuki & Ondieki, 2021). The roots of these problems trace back to the post-independence era when rapid Africanization placed inexperienced individuals in leadership roles, compounded by political interference that prioritized patronage over meritocracy (Van Rij, 2021**)**.

The situation worsened during the economic crises of the 1980s and 1990s, where privatization efforts under Structural Adjustment Programs were undermined by corruption scandals like Goldenberg, leaving many corporations financially unstable (Ndung'u, 2022). In the 21st century, these challenges persist, evidenced by recurring scandals such as the National Youth Service fiasco and the constant need for government bailouts for entities like Kenya Airways (Daily Nation, 2023). Despite reform attempts like the 2013 Presidential Task Force on Parastatal Reforms, progress remains hindered by deep-seated issues including political meddling, weak governance structures, and resistance to change (Kenya Institute for Public Policy Research and Analysis, 2019).

According to (African Development Bank, 2023) meaningful transformation entails depoliticized appointments, enriched oversight mechanisms, and stringent accountability measures. Without such fundamental reforms, CSCs will continue to underperform, failing to achieve financial sustainability or contribute effectively to Kenya's economic growth, particularly in an era where robust corporate governance is increasingly crucial for attracting investment in emerging markets (Okiro et al., 2023).

1.2 Research Problem

The financial sustainability of Kenyan parastatals remains a challenge due to inefficiency, financial distress, and over-reliance on government bailouts (World Bank, 2021). Despite reforms, these entities continue to underperform, exacerbated by corruption and political interference. While global studies link board characteristics such as diversity, composition, and expertise to performance (Adams & Ferreira, 2009), there is limited research on their impact in emerging markets like Kenya. Further, board characteristics such as size, independence, diversity, expertise, and leadership structure have been widely studied to understand their impact on firm performance (Dalton et al., 1998; Wang & Clift, 2009). However, empirical evidence remains mixed, with some studies highlighting the positive effects of certain attributes, such as gender diversity and board independence (Post & Byron, 2015; Carter et al., 2010), while others find no significant or even negative relationships (Hermalin & Weisbach, 2003). This ambiguity underscores the need for further research. This study aims to fill this gap by exploring how board characteristics affect the financial sustainability of commercial state corporations. Understanding these dynamics is vital for improving governance and ensuring the contribution of parastatals to national development goals (National Treasury, Kenya, 2021).

1.3 Specific Research Objectives

i. To determine board size influence on the financial sustainability of Commercial State Corporations in Kenya

ii. To assess board independence's influence on the financial sustainability of Commercial State Corporations in Kenya

iii. To examine board diversity's influence on the financial sustainability of Commercial State Corporations in Kenya

iv. To evaluate board committees' influence on the financial sustainability of Commercial State Corporations in Kenya

v. To determine board expertise's influence on the financial sustainability of Commercial State Corporations in Kenya
vi. To ascertain firm size's moderate effect on the relationship between board characteristics and financial sustainability Commercial State Corporations in Kenya

1.4 Significance of the Study

This study makes important theoretical and practical contributions by integrating agency, stewardship, and resource dependency theories to analyze corporate governance in Kenya's emerging market context. It examines how board characteristics interact with firm size to influence financial performance, offering valuable insights into Kenya's unique institutional environment. The findings can inform policymaking by helping regulators like the legislators assess and improve governance frameworks. Practically, the research identifies optimal board structures (including size, independence, diversity, expertise, and committees) tailored to different firm sizes, enabling organizations to enhance their governance practices. These insights can drive sustainable growth in Kenya's state-owned entities by aligning governance with organizational needs and market realities.

2. Literature Review

2.1 Theoretical Review

This section aims to review the extant literature on board characteristics and discuss the underpinning corporate governance theories relevant to empirically respond to the research questions. Theoretical frameworks such as agency theory, resource dependence theory, and stewardship theory provide a foundation for understanding how board characteristics influence firm performance. Agency theory emphasizes the board's role in aligning the interests of managers and shareholders, while resource dependence theory highlights the board's ability to provide access to external resources and networks. Stewardship theory suggests that Managers are faithful stewards and should be empowered to manage firm resources responsibly, ultimately affecting organizational outcomes. Despite these theoretical insights, the interplay between board characteristics and firm sustainability is complex and often influenced by contextual factors such as industry dynamics, firm size, and regulatory environments.

2.1.1 Agency Theory

Agency theory, introduced by Jensen and Meckling (1976), examines the relationship between principals (shareholders) and agents (managers) in a firm, highlighting potential conflicts of interest. Managers, acting as agents for shareholders, may prioritize personal goals, such as job security or compensation, over the firm's financial performance. This creates a need for governance mechanisms like the board of directors to oversee management and align their actions with shareholder interests (Mackenzie, 1982).

The board of directors plays a crucial role in mitigating these agency problems by monitoring management, making strategic decisions, and ensuring that the firm's operations align with shareholders' goals. Key elements of board composition—independence, diversity, expertise, and size—affect the board's ability to perform these functions effectively, thereby influencing the firm's financial performance (John and Senbet 1998).

Independent directors, who are not part of management, provide unbiased oversight. Research shows that independent directors are more likely to challenge management decisions and ensure accountability, which is critical for reducing agency costs (Chen et al., 2007). A diverse board brings varied perspectives, enhancing decision-making, while members with relevant expertise ensure informed guidance. Studies have demonstrated that board diversity, including gender and ethnic diversity, is appreciatively identified with bettered fiscal performance and invention. The size of the board also matters, as a balanced board size avoids inefficiencies and promotes effective oversight. Boards that are too large may suffer from coordination problems, while overly small boards may lack the necessary expertise and diversity (Kocmanová, Hřebíček and Dočekalová 2011).

By addressing agency problems, a well-composed board helps align the interests of managers and shareholders, reducing agency costs and improving financial performance. Effective board composition is essential for sustaining corporate success and maximizing shareholder value (Financial Stability Board, 2008).

2.1.2 Stewardship Theory

Stewardship theory contrasts with agency theory by viewing managers as stewards who prioritize the organization's long-term success rather than self-interest. According to Donaldson and Davis (1991), directors are naturally driven to act in the best interests of the company and its stakeholders, aligning their goals with those of shareholders. This perspective has been supported by recent studies, such as those by Hernández (2012) and Van Slyke (2007), which emphasize the importance of trust and intrinsic motivation in fostering stewardship behavior.

This theory suggests that, instead of focusing on monitoring and control, the board of directors should support and empower managers to achieve organizational success. Board composition—its independence, expertise, diversity, and size—plays a crucial role in creating a harmonious relationship between the board and management. A well-structured board facilitates collaboration, strategic support, and resource allocation, enabling managers to act as stewards of the company's resources (Davis et al., 1997; Muth & Donaldson, 1998). Recent research by Marwan et al. (2023) further highlights how boards with diverse expertise and collaborative structures enhance managerial stewardship and long-term financial performance.

Insider directors, expertise in relevant fields, and diversity contribute to a collaborative environment, fostering mutual trust and shared goals. Unlike agency theory, which emphasizes oversight, stewardship theory focuses on building a culture of trust and long-term planning, leading to improved financial performance (Hernández, 2012; Van Slyke, 2007). For example, studies by Chiou-Yann et al. (2024) demonstrate that boards with financial expertise and a stewardship-oriented approach significantly improve profitability and sustainability.

By aligning with management's strategic vision and supporting long-term goals, boards can help ensure financial sustainability and organizational prosperity. Effective board composition under stewardship theory thus enhances financial performance through cooperation and a shared commitment to the company's success (Donaldson & Davis, 1991; Marwan et al., 2023). This approach is particularly relevant in today's dynamic business environment, where long-term resilience and stakeholder trust are critical for sustained success.

2.1.3 Resource Dependence Theory

Resource Dependence Theory (RDT), introduced by Pfeffer and Salancik (1978), emphasizes the importance of external resources in organizational success. Firms rely on external actors for essential resources like capital, information, and legitimacy, making it crucial to manage these dependencies. The board of directors plays a key role in securing these resources by leveraging directors' expertise, networks, and connections (Hillman et al., 2000; Pfeffer & Salancik, 2003).

According to RDT, board of directors' composition is significance for management of external dependencies. Directors with diverse skills, industry expertise, and strong external connections provide firms with access to critical resources. These may include capital, strategic partnerships, market knowledge, and regulatory insights, all of which enhance financial performance (Hillman & Dalziel, 2003; Johnson et al., 2013). Diverse boards also bring a broad range of perspectives, helping companies explore new markets, drive innovation, and improve their reputation among external stakeholders (Carter et al., 2010; Marwan et al., 2023).

Board independence, expertise, diversity, and size are key elements that influence how effectively a firm manages its external resource dependencies. A well-balanced board can provide the firm with the necessary tools to respond to market changes, secure capital, and maintain efficient decision-making processes (Hillman et al., 2000; Kumar & Singh, 2013). For instance, research by Chiou-Yann et al. (2024) highlights how boards with financial expertise and strong external networks significantly improve a firm's ability to secure resources and enhance profitability.

The Resource Dependence Theory highlights the importance of board composition in helping firms access essential external resources. By selecting directors with the right expertise and connections, companies can better navigate resource dependencies, ultimately improving financial performance and ensuring long-term sustainability (Pfeffer & Salancik, 1978; Hillman & Dalziel, 2003). This approach is particularly relevant in today's competitive and resource-constrained business environment, where effective resource management is critical for sustained success.

Table 1: Summary of theoretical perspectives and implications for boards

Theory	Board role	Implications for board
Agency theory (Jensen and Meckling, 1976)	Managerial control and Monitoring	Independent boards are effective monitoring mechanism for shareholders to retain ownership and control. Incentive alignment.
Stewardship theory (Donaldson and Davis, 1991)	Managerial empowerment	Managers are faithful stewards and should be empowered to manage firm resources responsibly.
Resource dependence theory (Jeffrey Pfeffer and Gerald R. Salancik (1978)	Co-operation/ inter-organisational dependencies	Boards with strong external connections can serve as critical link for flow of resources.

2.2 Empirical Review

The impact of board characteristics on company performance is debated, with studies showing mixed results. While it's logical to assume that a board's managerial abilities influence financial performance, previous research on corporate governance characteristics has produced varied conclusions regarding their significance on firm performance.

2.2.1 Board Independence and Financial Sustainability

Board independence is essential for ensuring financial sustainability, with various theories explaining its role. Agency theory argues that independent directors act as objective monitors, reducing conflicts between management and shareholders, which enhances governance and financial performance. Studies indicate that firms with more independent directors tend to achieve better profitability and stock market performance (Bhagat & Black, 2002; Krivogorsky, 2006). In contrast, stewardship theory suggests that managers naturally act in shareholders' best interests, and fewer independent directors may foster collaboration for long-term goals. While it downplays the need for extensive independence, it acknowledges its importance in balancing decision-making. Resource dependence theory highlights the external connections and credibility independent directors bring, contributing to financial sustainability.

Despite these theories, some studies question the direct link between board independence and financial performance. Research by Bhagat and Black (2002) and Krivogorsky (2006) found no strong correlation between independent directors and profitability, with less profitable firms often seeking more independence. The debate extends to CEO duality, where combining the roles of CEO and Chairman is argued to improve effectiveness, though studies show mixed results on its impact on financial performance (Kumar & Singh, 2013).

Empirical studies in different regions also offer varied findings. Research in Nigeria and Canada supports the importance of board independence (Albert, 2015), while studies in Jordan and the Gulf Cooperation Council region find positive links between independence and performance (Marwan et al., 2023). While theories such as agency, stewardship, and resource dependence highlight the importance of independent directors, empirical evidence presents mixed outcomes. However, the overall role of board independence in promoting long-term financial health remains significant, suggesting that governance structures should balance independence and collaboration.

2.2.2 Board Diversity and Financial Sustainability

Board diversity is essential for enhancing financial sustainability, as it brings diverse perspectives that improve decision-making and governance. Agency theory highlights that diversity in gender, ethnicity, and experience helps mitigate managerial dominance and groupthink, leading to better decision-making that aligns with shareholders' interests. Studies show that companies with diverse boards often perform better financially, spotting innovation opportunities and avoiding excessive risk-taking. Gender diversity can play a crucial monitoring role in the corporate governance system (Chen et al., 2007; Liu et al., 2014).

Stewardship theory also supports board diversity, emphasizing its role in fostering innovation, inclusivity, and collaboration with management. Diverse boards, including gender and ethnic diversity, help companies address the needs of a broader range of stakeholders and adapt to global markets, supporting long-term sustainability.

Resource dependence theory underscores that diverse boards are better positioned to secure external resources, thanks to their varied networks and insights. Gender and ethnic diversity not only improve decision-making but also open new markets, attract talent, and strengthen a company's reputation. Female directors, for instance, bring unique perspectives and networks, enhancing market reach (Carter et al., 2010).

Additionally, board diversity boosts legitimacy with external stakeholders, such as investors and customers. Companies prioritizing diversity are viewed positively, perfecting access to capital and sales. Diverse boards communicate effectively with stakeholders, further improving financial outcomes.

Empirical studies show mixed results on the relationship between board diversity and financial performance. Some research confirms a positive impact of gender diversity (e.g., Carter et al., 2010), while others suggest the effect varies depending on diversity type and board functions (e.g., Cobus et al., 2015). Overall, while the relationship between board diversity and financial performance is complex, diverse boards contribute to enhanced financial sustainability and long-term success.

2.2.3 Board Expertise and Financial Sustainability

Board expertise is crucial for financial sustainability, as it enables effective oversight and informed decision-making. Agency theory highlights that directors with specialized knowledge in finance, accounting, and industry can monitor management more effectively, reducing agency costs and preventing financial misreporting. Expertise empowers boards to challenge management, improve resource management, and mitigate risks, leading to better financial performance.

Stewardship theory emphasizes the value of board expertise in fostering long-term success. Directors with relevant experience collaborate with management to optimize resources, manage risks, and seize growth opportunities, aligning decisions with the company's goals. Expertise in governance and risk management further strengthens the organization's resilience, ensuring sustained profitability.

Resource dependence theory underscores the importance of expertise in securing external resources. Directors with specialized knowledge can guide the firm through market trends, regulatory challenges, and competitive pressures. Financial experts, in particular, assist with capital acquisition, financial reporting, and profitability strategies, enhancing the firm's financial health. Additionally, well-connected board members can leverage external networks to secure contracts, regulatory advantages, and strategic alliances, which contribute to a competitive edge.

Recent studies also highlight the role of expertise in enhancing financial performance. For instance, Marwan et al. (2023) found that CEO and board CSR expertise improves outcomes from CSR investments, while Chiou-Yann et al. (2024) showed that boards with higher financial expertise contribute significantly to profitability. These findings confirm that board expertise in areas like financial management and CSR plays a critical role in improving financial performance and ensuring long-term sustainability. In summary, board expertise is essential for strong governance, strategic decision-making, and securing critical resources, ultimately fostering long-term financial stability and resilience.

2.2.4 Board Size and Financial Sustainability

Board size plays a significant role in determining a firm's financial sustainability, with varying impacts depending on the context and governance structure. The Kenya Mwongozo Code of corporate governance suggests that boards should neither be too large nor too small but should have an appropriate size to balance skills and experience to meet the firm's needs.

Agency theory posits that larger boards provide broader oversight due to their diverse skills, but they may suffer from inefficiencies and reduced accountability, increasing agency costs. Smaller boards, while more efficient, may lack diversity, potentially leading to management dominance. Research suggests a U-shaped relationship between board size and financial performance, with moderately sized boards (7-13 members) offering the best balance between diversity and efficient decision-making (Liang et al., 2013; Kumar & Singh, 2013).

Stewardship theory argues that smaller boards foster closer collaboration and strategic support between members and management, facilitating trust and alignment for long-term sustainability. Conversely, larger boards bring diverse perspectives but may face challenges in decision-making efficiency.

Resource dependence theory views larger boards as beneficial for accessing external resources, with their broader networks helping firms connect with key stakeholders. However, large boards can be less agile in reacting to changes because they need to coordinate decision-making with more members. Smaller boards may be more efficient but lack the diversity necessary for securing crucial resources.

Empirical studies show mixed results. For example, Liang et al. (2013) and Kumar and Singh (2013) found a negative relationship between board size and performance, while Rwakihembo et al. (2020) discovered a positive relationship in Uganda. These findings suggest that the optimal board size depends on the firm's environment, complexity, and resource needs. A moderately sized board is generally most effective in balancing diverse perspectives, strategic collaboration, and efficient decision-making, supporting financial sustainability.

2.2.5 Board Committees and Financial Sustainability

Achieving financial sustainability requires robust governance structures, particularly effective board committees overseeing financial oversight, accountability, and strategic planning. Two critical committees in this regard are the Audit and Risk Management Committee and the Remuneration, Nomination, and Governance Committee (IMF, 2022).

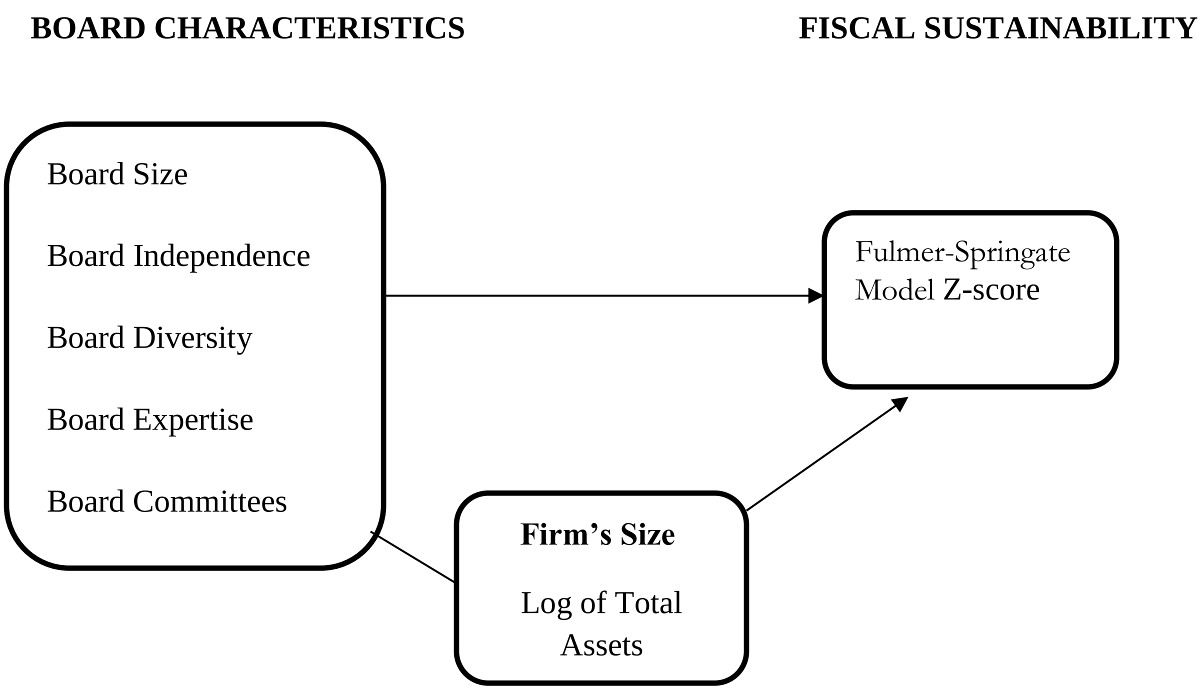
The Audit and Risk Management Committee ensures financial transparency, compliance with regulations, and strong internal controls to prevent financial mismanagement (Deloitte, 2021). Its responsibilities include overseeing financial reporting, assessing internal controls, managing external audits, and mitigating financial risks such as market volatility (PwC, 2022). By proactively addressing these factors, the committee strengthens stakeholder confidence and ensures long-term financial stability through effective crisis management (World Bank, 2021). This approach fosters a more resilient and sustainable financial future.

The Remuneration, Nomination, and Governance Committee oversees executive compensation, aligning pay structures with organizational goals and financial sustainability (Hong, Li and Minor, 2016). It also enhances governance by reviewing board composition and strategic direction, fostering accountability. This committee’s work supports talent retention and aligns executive incentives with long-term financial objectives, reinforcing sustainability.

These board committees team up to insure the organization's fiscal health. The Audit and Risk Management Committee focuses on financial transparency and risk mitigation, while the Remuneration, Nomination, and Governance Committee ensures alignment between executive pay and long-term goals. Together, they create a strong governance frame that supports sustained financial stability.

Research highlights the significance of effective governance and committee structures. For instance, studies by Bogdan et al. (2022) show that board diversity and audit committees positively influence financial performance, while Albert (2015) found that weak internal governance hindered committee impact in Ghana. Effective board committees, with proper oversight and strategic alignment, are key to achieving financial sustainability.

2.3 Conceptual Framework



3. Research Methodology

This section discusses the research approach, research design, data collection methods, and estimation approaches. The study employed a descriptive cross-sectional research design, relying on numerical data analysis to examine a snapshot of a population at a single point in time. Descriptive cross-sectional research is a type of observational study design that aims to describe the characteristics of a population or phenomenon at a specific point in time (Creswell & Creswell, 2018). When combined with a quantitative analysis approach, this method focuses on collecting and analyzing numerical data to understand relationships between variables, test hypotheses, and make predictions based on statistical analysis. (Saunders et al., 2019).

The research was designed to draw inferences from the relationships among variables to evaluate the relationship between board characteristics and firms' financial sustainability in commercial State Corporations in Kenya. Considering the availability of electronic database sources for accounting data, such as the National Treasury database and online published reports, the researcher determined that a quantitative method was more suitable than a qualitative method, as readily available secondary data in the form of absolute figures and percentages would be utilized to explain the research objectives (Bryman & Bell, 2015).

The study was conducted among commercial state corporations. The target population was the unit under study, which was used for the analysis. The study employed simple random sampling, where every member of the population (the 46 commercial state enterprises) had an equal chance of being selected. This was typically done using a lottery system (Teddlie & Yu, 2007). The method was adopted because it is easy to implement and ensures that the sample is unbiased (Etikan et al., 2016). The study targeted 46 commercial state enterprises, out of which 32 were analyzed.

The literature on corporate governance emphasizes the importance of various board characteristics and their relative weights in influencing firm performance and governance quality. Board size is weighted at 0.15, reflecting its dual nature: while larger boards can bring diverse expertise and perspectives, enhancing decision-making, excessive size may lead to coordination challenges and reduced effectiveness (Jensen, 1993; Yermack, 1996).

Board independence, with the highest weight of 0.30, is critical for effective monitoring of management and reducing agency costs, as independent directors are more likely to act in shareholders' interests (Fama & Jensen, 1983; Bhagat & Black, 2002). Board diversity, weighted at 0.10, is linked to improved decision-making, innovation, and firm performance, as diverse boards are less prone to groupthink and more likely to consider a wide range of perspectives (Carter et al., 2003; Post & Byron, 2015).

3.1 Variable Measurement and Methods

Variable	Indicators	Composite Measures
Board Characteristics	Board Size	❖ No of Directors
	Board Independence	❖ Proportion of Independence Director ❖ CEO Duality ❖ Proportion of Non-executive Directors
	Board Diversity	❖ Gender ❖ Age ❖ Regional Balance
	Board Expertise	❖ Professional Work Experience ❖ Industry Experience ❖ Board Experience ❖ Academic qualification ❖ Professional Qualification/Membership
	Board Committees	❖ Independence, Size, Competence, frequency of meetings of Key Committees ✓ Remuneration, Nomination & Governance Committee ✓ Audit & Risk Management Committee
Financial Sustainability	Financial Health	Fulmer-Springate Model Fulmer Model has the following cut-off point values • If the H result > 0, then the company has no the possibility of financial distress • If the result of H <0, then the company has possibility of financial distress
Firm Size	Total Assets	❖ Log of Total Assets

Board expertise, weighted at 0.25, is vital for strategic decision-making and oversight, particularly in complex industries or during crises, as directors with industry-specific or technical knowledge contribute significantly to governance quality (Hillman & Dalziel, 2003). Finally, board committees, weighted at 0.20, play a crucial role in governance by providing focused oversight and expertise in areas such as auditing and compensation, thereby enhancing accountability and reducing conflicts of interest (Klein, 2002). These weights reflect the relative importance of each characteristic in shaping corporate governance outcomes, highlighting the need for a balanced and well-structured board to achieve optimal firm performance.

3.1 Data Analysis

The collected data was analyzed using regression analysis to determine the relationship between board characteristics and financial sustainability. In order to ensure non-violation of the assumptions of the linear regression model, diagnostic tests were conducted to ensure proper specification of equations.

$FS_{it} = ß_i + ß_1 \, BXstics_{it} + ß_2 \, FSize_{it} + \varepsilon$

Where:

FS: Financial sustainability indicator

BXstics: Board Characteristics

FSize: Firm Size

4. Findings and Discussions

The empirical results comprise the results of descriptive statistical analysis, correlation analysis, and regression analysis.

4.1 Descriptive Statistics

Descriptive Statistics were used to summarize and describe the main features of a dataset (e.g., mean, variance, minimum, and maximum). This was used for initial data exploration and understanding of data distribution.

4.1.1 Board Characteristics

Variable	Obs	Mean	Std. Dev.	Min	Max
B_Size	32	0.833333	0.369054	0	1
B_Committees	32	0.425781	0.369054	0	1
B_Diversity	32	0.479167	0.238537	0	1
B_Independance	32	0.968750	0.130050	0.333333	1
B_Expertises	32	0.650000	0.196748	0.2	1
Board_Xstics	32	0.711198	0.100170	0.525	0.883333

The analysis of board characteristics reveals varying levels of adequacy across different dimensions. Board Size has a mean rating of 0.8333, indicating that it is generally closer to being adequate than needing improvement, with moderate variability (Std. Dev. = 0.3691) and a full range from 0 to 1. Board Committees, however, have a lower mean rating of 0.4258, suggesting they are closer to needing improvement, with low variability (Std. Dev. = 0.2673) and a range from 0 to 1. Board Diversity has a mean rating of 0.4792, slightly below the midpoint, indicating room for improvement, with low variability (Std. Dev. = 0.2385) and a range from 0 to 1.

In contrast, Board Independence scores highly, with a mean of 0.9688, very close to adequate, and very low variability (Std. Dev. = 0.1301), though the range (0.3333 to 1) shows some boards still need improvement. Board Expertise has a mean rating of 0.65, leaning toward adequacy, with low variability (Std. Dev. = 0.1967) and a range from 0.2 to 1. Finally, the Board Characteristics Index, which aggregates these dimensions, has a mean of 0.7112, indicating overall adequacy, with low variability (Std. Dev. = 0.1002) and a range from 0.525 to 0.8833, showing no board is optimal but all fall between needing improvement and adequate. Overall, while some areas like board independence and size perform well, others such as committees and diversity require attention to enhance board effectiveness.

The descriptive statistics provide a snapshot of board characteristics, highlighting areas of strength (independence) and weakness (committees and diversity). The overall board characteristics index indicates that boards are generally adequate but have room for improvement to reach optimal levels.

4.1.2 Firm Size

Variable	Obs	Mean	Std. Dev.	Min	Max
F_Size	32	7.334191	0.965428	4.669512	8.891903

The analysis of firm size, measured as the log of total assets, reveals key insights about the CSC. The mean firm size is 7.334191, which, when exponentiated, translates to approximately 1,530.5 units (thousands based on the unit of measurement), indicating the average total assets of CSC. The standard deviation of 0.9654281 reflects moderate variability in firm size, corresponding to a factor of about 2.626 in the original scale, suggesting that firm sizes vary around the mean by this factor. The smallest firm in CSC has a log size of 4.669512, equivalent to approximately 106.6 units of total assets, while the largest firm has a log size of 8.891903, equivalent to approximately 7,230.5 units. This wide range, from 106.6 to 7,230.5 units, highlights significant diversity in firm sizes among CSC, with the average firm size leaning toward the larger end of the spectrum.

4.1.3 Financial Sustainability

Variable	Obs	Mean	Std. Dev.	Min	Max
Working Capital to Total Assets	32	0.04371	0.36427	-0.7284	0.68525
Retained Earnings to Total Assets	32	-0.5634	3.53696	-19.316	1.29225
EBIT to Total Assets	32	0.30043	0.93695	-0.2318	5.20763
Equity Value to Total Liabilities	32	1.06624	1.64899	0.0000	5.08577
O-Score	32	0.84697	2.62276	-9.8055	7.1211

The analysis of key financial ratios and the O-Score provides insights into the financial health and performance of the CSC. The Working Capital to Total Assets ratio, with a mean of 0.04371, indicates that, on average, companies maintain a small buffer of liquid assets relative to their total assets.

However, the wide range and high standard deviation (0.36427) reveal significant variability, with some companies facing liquidity challenges, as evidenced by negative values. The Retained Earnings to Total Assets ratio, with a negative mean of -0.5634, signals poor historical profitability, as companies have accumulated losses rather than profits. This is further emphasized by extreme minimum values, highlighting severe financial distress in some cases. The EBIT to Total Assets ratio, with a positive mean of 0.30043, suggests that companies are generally generating operating income relative to their assets, but the high standard deviation (0.93695) and wide range indicate uneven operating performance, with some companies struggling to remain profitable.

The Equity Value to Total Liabilities ratio, with a mean of 1.06624, shows that, on average, companies' equity values exceed their liabilities, which is a positive sign. However, the wide range and high standard deviation (1.64899) reflect significant variability, with some companies having negligible or negative equity value, indicating financial distress. Finally, the O-Score, with a mean of 0.84697, suggests a moderate overall risk of financial distress, but the extreme range and high standard deviation (2.62276) reveal stark differences in financial health, with some companies at high risk of bankruptcy and others in relatively stable condition. Overall, the CSC exhibits considerable variability in liquidity, profitability, and financial stability, with some companies performing well while others face significant challenges.

4.2 Correlation Analysis

rho
Sig. level

	BoardXstics	**FSize**	**OScore**
BoardXstics	1.0000		
FSize	0.5661*	1.0000	
	0.0007		
FSize	-0.1514	-0.0543	1.0000
	0.4082	0.7681	

The correlation analysis reveals relationships between Board Characteristics, Firm Size, and the O-Score, which measures the likelihood of financial distress. The correlation coefficient (rho) between Board-Xstics and F-Size is 0.5661, which is statistically significant at the 0.0007 level. This indicates a moderately strong positive relationship, suggesting that larger firms tend to have more developed or structured board characteristics.

However, the correlation between Board-Xstics and the O-Score is -0.1514, which is not statistically significant (p-value = 0.4082), implying that board characteristics do not have a meaningful linear relationship with the likelihood of financial distress among CSC. Similarly, the correlation between F-Size and the O-Score is -0.0543, which is also not statistically significant (p-value = 0.7681), indicating that firm size does not significantly influence the likelihood of financial distress in this context. Overall, while the firm size and board characteristics are positively correlated, neither appears to have a significant direct relationship with financial distress as measured by the O-Score.

4.3 Multivariate Statistical Analysis

Regression analysis was used to model relationships between variables and predict or understand variable impacts.

Table 4.1: Influence of various Board Attributes on the financial sustainability of Commercial State Corporations

Source	SS	df	MS			
				Number of obs	=	32
				F(5, 26)	=	1.43
Model	46.054014	5	9.210803	Prob > F	=	0.2459
Residual	167.19014	26	6.43039	R-squared	=	0.216
				Adj R-squared	=	0.0652
Total	213.24415	31	6.878844	Root MSE	=	2.5358

O-Score	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
B-Size	2.546283	1.32153	1.93	0.065	-0.1702	5.262724
B-Committees	-2.978118	1.7724	-1.68	0.105	-6.6213	0.665107
B-Diversity	-0.071336	2.01268	-0.04	0.972	-4.2085	4.065782
B-Independence	4.655865	3.78354	1.23	0.23	-3.1213	12.43304
B-Expertise's	1.057091	2.58348	0.41	0.686	-4.2533	6.367499
_cons	-5.170205	4.45405	-1.16	0.256	-14.326	3.985219

Board Size has a positive coefficient (2.546, p = 0.065), suggesting that larger boards may marginally improve O-Score, possibly due to broader expertise and resources, consistent with resource dependence theory. However, this effect is only marginally significant, and prior studies (e.g., Lipton & Lorsch, 1992) caution that oversized boards may reduce efficiency. Board Committees show a negative but insignificant coefficient (-2.978, p = 0.105), which contrasts with expectations. While specialized committees (e.g., audit and risk) are often linked to better governance, excessive committees may lead to over-bureaucratization (Jensen, 1993), reducing effectiveness.

Board Diversity has a negligible and insignificant coefficient (-0.071, p = 0.972), contradicting studies that associate diversity (gender, ethnicity) with improved decision-making (Carter et al., 2003). This could reflect tokenism or insufficient diversity in the CSC. Board Independence has a positive but insignificant coefficient (4.656, p = 0.230), aligning with agency theory (Fama &

Jensen, 1983), where independent directors enhance oversight. However, the lack of significance suggests that other governance mechanisms may be more influential. Board Expertise shows no significant impact (1.057, p = 0.686), contrary to research linking director expertise to better performance (Hillman & Dalziel, 2003). This could be due to mismatched skills. The intercept (-5.170, p = 0.256) suggests that if all board characteristics were zero, O-Score would be negative, though this result is statistically insignificant.

The regression model explains 21.6% of the variation in O-Score (R-squared = 0.2160), indicating that board characteristics have a moderate but not dominant influence on organizational performance. The remaining variation is likely due to unobserved factors. Additionally, the F-statistic (1.43, p = 0.2459) indicates that the model as a whole is not statistically significant at conventional levels (p > 0.05).

Prior research presents mixed findings on board characteristics. While some studies support larger boards for their resource advantages, others warn of inefficiencies (Lipton & Lorsch, 1992). Similarly, committees are often beneficial (Klein, 1998), but excessive formalization may hinder agility. Diversity has been linked to better governance (Carter et al., 2003), though some studies find no direct impact (Adams & Ferreira, 2009). Independence is theoretically sound (Fama & Jensen, 1983), but its effectiveness varies by context (Bhagat & Black, 2002). Finally, while expertise is generally valued (Anderson et al., 2004), its impact may depend on alignment with firm needs.

The analysis examines the relationship between board characteristics, firm size, and O-Score. The coefficient for board characteristics is -2.47, indicating that a one-unit increase in the board characteristics index is associated with a 2.47-unit decrease in O-Score, holding firm size constant. However, this result is not statistically significant (p = 0.670), suggesting that board characteristics do not have a meaningful impact on O-Score. Similarly, the coefficient for firm size is 0.75, implying that a one-unit increase in the log of total assets is associated with a 0.75-unit increase in O-Score, holding board characteristics constant. This result is also not statistically significant (p = 0.220), indicating that firm size does not significantly affect O-Score. The intercept of -2.87

represents the expected O-Score when both predictors are zero, though this value may lack practical relevance.

Table 4.2: Influence of Board Characteristics, Firm Size on the financial sustainability of Commercial State Corporations

Source	**SS**	**df**	**MS**			
				Number of obs	=	32
				F(2,29)	=	0.84
Model	11.704202	2	5.852101	Prob > F	=	0.4411
Residual	201.53995	29	6.949653	R-squared	=	0.0549
Total	213.24415	31	6.878844	Root MSE	=	2.6362

OScore	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
BXstics Indexs	-2.472805	5.74157	-0.43	0.67	-14.216	9.270031
FSize	0.746038	0.59573	1.25	0.22	-0.4724	1.964444
_cons	-2.865966	3.96548	-0.72	0.476	-10.976	5.244344

The model's R-squared of 0.0549 indicates that only about 5.49% of the variance in O-Score is explained by the predictors, which is very low. Additionally, the F-statistic of 0.84 (p = 0.4411) shows that the overall model is not statistically significant, meaning the predictors do not collectively explain a significant portion of the variance in O-Score. The results suggest that neither board characteristics nor firm size significantly influence the O-Score of CSC.

The regression analysis examined the relationship between board characteristics, firm size, and their interaction term (Bxstic_Fsize) on the O-Score, which measures the likelihood of financial distress. The results indicate that board characteristics alone have a negative but statistically insignificant effect on O-Score (coefficient = -0.72, p = 0.901), suggesting they do not meaningfully influence the financial distress of CSC.

Table 4.3: Moderating Effects of Firm Size on Relationship between Board Characteristics and Financial Sustainability

Source	SS	df	MS			
				Number of obs	=	32
				F(3, 28)	=	1.42
Model	28.133344	3	9.377781	Prob > F	=	0.2582
Residual	185.11081	28	6.6111	R-squared	=	0.1319
Total	213.24415	31	6.878844	Root MSE	=	2.5712

OScore	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
BXsticsIndexs	-0.719507	5.70936	-0.13	0.901	-12.415	10.97558
FSize	0.54206	0.59527	0.91	0.370	-0.6773	1.76142
Bxstic_Fsize	-8.119351	5.15052	-1.58	0.126	-18.67	2.431003
_cons	-2.185081	3.89172	-0.56	0.579	-10.157	5.786754

Similarly, firm size has a positive but statistically insignificant effect (coefficient = 0.54, p = 0.370), indicating it does not significantly impact O-Score. The interaction term, which captures the moderating effect of firm size on the relationship between board characteristics and O-Score, is also statistically insignificant (coefficient = -8.12, p = 0.126), implying that firm size does not significantly alter the effect of board characteristics on financial distress.

The model's overall fit is weak, with an R-squared of 0.1319, indicating that only a small portion of the variance in O-Score is explained by the predictors. Additionally, the F-statistic (1.42, p = 0.2582) confirms that the model is not statistically significant. These findings suggest that the included variables do not collectively explain a meaningful portion of the variance in O-Score, and other factors not included in the model may play a more significant role in determining financial distress.

5. Conclusions and Recommendations

The study aimed to explore the relationship between board characteristics, firm size, and their interaction on the financial sustainability of state corporations, measured by O-Score. The analysis revealed several key findings. Board independence emerged as the strongest characteristic, with a

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mean close to 1 (Adequate) and low variability, indicating consistent performance. In contrast, board committees and diversity were identified as the weakest areas, with means closer to 0 (Needs Improvement), highlighting significant room for enhancement. Board size and expertise were moderately rated, closer to 1 (Adequate), suggesting potential for further improvement. The overall Board Characteristics Index indicated that boards are generally adequate but fall short of optimal performance.

The analysis shows CSC firms have an average size of 1,530.5 units (log mean: 7.33) reflecting a wide range within the CSC. The standard deviation of 0.9654281 reflects moderate variability in firm size, corresponding to a factor of about 2.626 in the original scale. Firm sizes range from 106.6 (smallest) to 7,230.5 units (largest), indicating significant diversity-the largest firm is 68 times bigger than the smallest. Indicating significant diversity and a skew toward larger firms. (49 words).

The financial health of the companies was mixed, with significant variability across key metrics. The O-Score, with a mean of 0.84697, suggests a moderate overall risk of financial distress, but the extreme range and high standard deviation (2.62276) reveal glaring differences in financial health, with some companies at high risk of bankruptcy and others in relatively stable condition. Some companies' demonstrated stability, evidenced by positive working capital, high EBIT, and high O-Scores, while others showed signs of severe financial distress, such as negative retained earnings, low equity value relative to liabilities, and low O-Scores. Overall, the CSC exhibits considerable variability in liquidity, profitability, and financial stability, with some companies performing moderately well while others face significant challenges.

The results suggest that while certain board characteristics (e.g., size, independence) show tentative relationships with O-Score, none are statistically significant at conventional levels. This implies that other factors may play a more critical role in organizational performance. Firms should focus on optimizing board effectiveness rather than adhering to generic governance prescriptions. In exploring the relationship between board characteristics, firm size, and their interaction with the financial sustainability of state corporations. The regression model examining the impact of board characteristics and firm size on O-Score performed poorly, with an R-squared of 0.0549, indicating that the predictors explained very little of the variance in O-Score. The F-statistic of 0.84 ($p = 0.4411$) confirmed that the model was not statistically significant, suggesting that neither board characteristics nor firm size significantly influenced the O-Score of CSC. The interaction term between board characteristics and firm size was also insignificant, further emphasizing the lack of a meaningful moderating effect.

The coefficient for board characteristics was negative in both models, indicating that higher board characteristics indices were associated with lower financial sustainability, though this relationship was not statistically significant ($p > 0.05$). This contrasts with prior studies that suggest effective board characteristics positively influence financial performance, potentially due to the unique context of state corporations where factors like political influence or governance structures may dilute the impact of board characteristics. The coefficient for firm size was positive, suggesting that larger firms tend to have higher financial sustainability, likely due to better access to resources and economies of scale, but this association was similarly not statistically significant ($p > 0.05$). The interaction term (Bxstic_Fsize) was negative and marginally significant ($p = 0.126$), implying that the combined effect of board characteristics and firm size may negatively impact financial sustainability, possibly due to bureaucratic inefficiencies or misaligned governance practices in larger state corporations.

5.1 Implications of the Study

The study challenges the assumption that strong board governance universally enhances financial sustainability, particularly in state corporations. It reveals that board characteristics alone have a limited, non-significant impact, suggesting governance effectiveness is context-dependent, influenced by factors like political interference and regulatory environments. The negative interaction between board characteristics and firm size indicates that governance may weaken in larger organizations due to bureaucratic inefficiencies.

Practically, enhancing board governance (e.g., independence, diversity) may not suffice; instead, tailored reforms and resource optimization are needed, especially for larger parastatals. Policymakers should adopt context-specific governance strategies, establish robust monitoring frameworks, and invest in capacity building for boards and management to improve financial sustainability. The findings highlight the need for nuanced governance approaches in state-owned enterprises.

5.2 Recommendations and Suggestions for further study

The study underscores the necessity to bolster board governance, focusing on strengthening board committees and diversity as key areas needing improvement, while upholding strong independence and advancing expertise. Financially distressed firms, particularly those with negative retained earnings, low equity-to-liability ratios, and low O-Scores-require targeted interventions. High-risk companies with lower O-Scores should be closely monitored, while those with negative retained earnings must prioritize profitability improvements. Firms facing liquidity challenges should focus on enhancing short-term solvency. These measures aim to reinforce governance frameworks, stabilize financial health, and mitigate risks in state corporations.

Further investigation is needed to assess: The impact of political appointments on board effectiveness and financial decision-making, as interference may undermine governance. The role of national guidelines (e.g., Kenya's *Mwongozo*) and regulatory environments in shaping CSC performance. Addressing these areas could provide actionable insights to enhance governance, financial sustainability, and overall CSC performance.

Reference

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics, 94*(2), 291-309. https://doi.org/10.1016/j.jfineco.2008.10.007

African Development Bank. (2023). *Economic outlook for Kenya: Challenges and opportunities*. Retrieved from https://www.afdb.org

Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2004). Board characteristics, accounting report integrity, and the cost of debt. *Journal of Accounting and Economics, 37*(3), 315-342. https://doi.org/10.1016/j.jacceco.2004.01.004

Bhagat, S., & Black, B. (2002). The non-correlation between board independence and long-term firm performance. *Journal of Corporation Law*, *27*(2), 231-274.

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review, 18*(5), 396-414. https://doi.org/10.1111/j.1467-8683.2010.00809.x

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. *Financial Review*, *38*(1), 33-53. https://doi.org/10.1111/1540-6288.00034

Chen, X., Harford, J., & Li, K. (2007). Monitoring: Which institutions matter? *Journal of Financial Economics*, *86*(2), 279-305. https://doi.org/10.1016/j.jfineco.2006.09.005

Daily Nation. (2023). *Kenya's parastatals: A history of mismanagement and corruption*. Retrieved from https://www.nation.co.ke

Deloitte (2021). *Audit Committee Effectivenes. 2021 Framework.* https://iasplus.com › content

Donaldson, L., & Davis, J. H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management, 16*(1), 49-64. https://doi.org/10.1177/031289629101600103

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics, 26*(2), 301-325. https://doi.org/10.1086/467037

Financial Stability Board. (2008). *Corporate governance reforms post-financial crisis*. Retrieved from https://www.fsb.org

Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review, 28*(3), 383-396. https://doi.org/10.5465/amr.2003.10196729

Hong, B., Li, Z., Minor, D., 2016. Corporate governance and executive compensation for corporate social responsibility. Journal of Business Ethics, 136, 199–213. https://doi.org/10.5465/amj.2013.0319

IMF (2022). *Governance and Financial Stability.*

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance, 48*(3), 831-880. https://doi.org/10.1111/j.1540-6261.1993.tb04022.x

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

 http://journals.uonbi.ac.ke/index.php/adfj
ISSN 2522-3186

John K and Senbet L.W (1998). Corporate governance and board effectiveness. *Journal of Banking & Finance 22 (1998) 371-403*.

Kariuki, J., & Ondieki, M. (2021). *The challenges of state corporations in Kenya: A historical perspective*. Nairobi: Kenya Institute of Public Policy Research and Analysis.

Kenya Institute for Public Policy Research and Analysis. (2019). *Public Sector Reforms in Kenya: Challenges and Opportunities*. Retrieved from https://www.kippra.or.ke

Klein, A. (1998). Firm performance and board committee structure. *Journal of Law and Economics*, *41*(1), 275-303. https://doi.org/10.1086/467391

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, *33*(3), 375-400. https://doi.org/10.1016/S0165-4101(02)00059-9

Kocmanová A., Hřebíček J. & Dočekalová M. (2011) corporate governance and sustainability. Economics and management: 2011. 16, 543 –550. ISSN 1822-6515

Kyereboah-Coleman, A., & Biekpe, N. (2006). The relationship between board size, board composition, CEO duality, and firm performance: Experience from Ghana. *Corporate Ownership and Control*, *4*(2), 114-122.

Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *Business Lawyer*, *48*(1), 59-77. https://www.jstor.org/stable/40687360

Marwan, A., Chiou-Yann, T., & Hernández, M. (2023). Board expertise and financial performance: A meta-analysis. *Journal of Corporate Finance*, *70*, 101-120. https://doi.org/10.1016/j.jcorpfin.2023.101120

Ndung'u, N. (2022). *The impact of privatization on Kenya's state corporations*. Nairobi: African Development Bank.

Ntim, C. G., & Osei, K. A. (2011). The impact of corporate board meetings on corporate performance in South Africa. *African Review of Economics and Finance*, *2*(2), 83-103.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, *58*(5), 1546-1571.

PwC (2022). *Risk Management and Audit Committee Best Practices.*

Van Rij A. (2021) "Corruption in Kenya. Understanding a Multifaceted Phenomenon", Notes de l'Ifri, Ifri, September 2021.

World Bank. (2021). *Kenya State Corporations Review: Corporate Governance and Fiscal Risks of State Corporations*. August 2021. Retrieved from https://www.worldbank.org

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics, 40*(2), 185-211. https://doi.org/10.1016/0304-405X(95)00844-5