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Abstract

The study examined the influence of corporate leadership on the performance of Kenya Agricultural and Livestock Research Organization (KALRO), utilizing theories of organizational excellence, upper echelons, and stakeholder. The study utilized a mixed-methods design with a pragmatic philosophy to reduce biases. It specifically targeted 75 management organs, with a focus on 60 directors and 188 top leadership members. The study employed cross-sectional survey to examine quantitative relationships, while qualitative

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perceptions were obtained through interpretive phenomenological analysis. The thorough examination, utilizing a composite regression model, revealed the significant effect of corporate leadership on KALRO's performance. The ANOVA results strongly supported the significant effect of corporate leadership on KALRO's performance by ruling out the null hypothesis that corporate leadership has no significant effect. Engaging in telephone discussions with the respondents who expressed apprehension resolved the primary constraint of the confidentiality of data. Suggested actions involve giving priority to achieving gender diversity, enhancing leadership development, conducting frequent performance evaluations, integrating monitoring and evaluation systems into regular operations, and enhancing communication. The study seeks to provide KALRO's leadership with guidance in making well-informed decisions in the face of conflicting priorities in the country. The research focused on assessing the impact of corporate leadership on the performance of the Kenya Agricultural and Livestock Research Organization (KALRO), employing organizational excellence, upper echelons, and stakeholder theories. Using a mixed-methods design aligned with a pragmatic philosophy to minimize biases, the study targeted 75 management organs, specifically 60 directors and 188 top leadership members. Employing a cross-sectional survey for quantitative analysis and interpretive phenomenological analysis for qualitative insights, the research, through a composite regression model, revealed a significant influence of corporate leadership on KALRO's performance. ANOVA results strongly supported this influence, rejecting the null hypothesis. Addressing confidentiality concerns, telephone discussions with hesitant respondents were conducted. Proposed actions include prioritizing gender diversity, enhancing leadership development, conducting frequent performance evaluations, integrating monitoring and evaluation systems into regular operations, and improving communication. The objective is to equip KALRO's leadership with guidance for informed decision-making amid conflicting priorities in the country.

Keywords: *Corporate Leadership, Organizational Performance, KALRO, Cabinet Secretary.*

1.0 Introduction

Corporate leadership aligns action research within state-funded agricultural and livestock research organizations in this age of growing demand for safe, affordable, and nutritious food. Executives, administrators, and managers influence organizational performance by enforcing strategic policies and fostering internal and external partnerships. These corporate leaders collaborate to achieve organization's mission and increase growth, visibility, sustainability, and impact. This study examined how corporate leadership affects Kenya Agricultural and Livestock Research Organization (KALRO) performance. Kilonzi et al. (2023), Knies et al. (2016), and Kitonga (2017) noted that corporate leaders have a strategic impact on organizational performance, emphasizing the need for effective leadership in the face of ongoing challenges.

By 2050, the global population will reach 9.9 billion (FAO, 2021), requiring over 27% more food, making aligned corporate leadership in agricultural and livestock research organizations crucial. Conflicts and economic downturns have increased food insecurity risks, affecting over 500 million smallholders worldwide and 277 million Africans at risk of starvation and malnutrition (Stephens et al., 2018). Food and nutrition security in Africa is difficult despite many state-funded agricultural and livestock research organizations. Strong corporate leadership is needed to meet global, regional, and national development goals.

As part of their crop and livestock reforms, developing nations have stressed the importance of corporate leadership in influencing organizational frameworks for innovation, accountability, scalability, and sustainability (Suri & Udry, 2022). This intentional effort established global agricultural and livestock research organizations. Studies in Singapore (Howlett et al., 2015), France and Canada (Berthet & Hickey, 2018), the UK (Whittington et al., 2019), and Jordan (Almahasneh, 2023) have shown that effective corporate leadership improves organizational performance. These studies stressed the importance of strategic direction, internal policies, and long-term goals for organizational success.

Across the continent, scholars in Nigeria (Maduenyi et al., 2015) and Ghana (Akpaprep, 2019) found that corporate leadership improved organizational performance by facilitating coordinated research, technology transfer, staff cohesion, personal development, and stakeholder satisfaction. National studies by Olaka et al. (2017), Oketch et al. (2021), and Nyandika et al. (2023) showed a positive correlation between strategic leadership and organizational performance. However, Awino et al. (2017) noted agricultural, livestock, and fisheries parastatals' performance issues caused by poor leadership, policy implementation, political interference, and integrity concerns, especially in bad weather. Based on organizational excellence theory, the study examined how corporate leadership improves organizational performance by combining upper echelons, legitimacy, institutional, and stakeholder theories.

Corporate Leadership

Corporate leadership is crucial for optimal organizational performance, involving collaboration, sharing, and managing resources. It involves diverse individuals with various attitudes, skills, competencies, and behaviors, such as board of management, CEOs, and managing directors. Corporate leadership sets strategic direction, clarifies goals, ensures critical human capital availability, facilitates financial resource acquisition, manages conflicts and change, coordinates periodic reviews of policies and strategies, and promotes an ethical organizational culture.

Ba (2022) defines corporate leadership as a systemic approach to policy and strategy development, organizational structuring, vision creation, resource allocation, and quality control. Pless et al. (2021) emphasize the importance of effective leadership for resolving conflicts, carrying out policies, and bolstering strategic alliances. Pureza and Lee (2020) stress the role of corporate leadership in promoting personnel responsibility, policy adoption, systemic knowledge sharing, and strategic linkages to drive institutional performance. Haski-Leventhal (2021) categorizes corporate leadership into top management, section directors/change agents, and informal leaders within the organization. The research addresses the limited contribution of corporate leadership to the performance of KALRO, a critical entity for addressing food and nutrition insecurity.

Organizational Performance

Organizational performance measures an organization's achievement of pre-set goals and targets compared to its expectations. All staff under the direction of the institution's head, senior management, and junior staff and subordinates must work together to achieve this performance for an organization to succeed. In Malaysia, Khalid et al. (2019) found that high-performing organizations prioritized stakeholder satisfaction and strategic policy compliance.

In Nigeria, Maduenyi et al. (2015) found that corporate leadership significantly affects organizational performance.

Venkatraman and Ramanujam (1986) scored organizational performance using three indicators: financial performance on return on investment, operational performance on product quality, and organizational effectiveness on employee morale and workplace environment. KALRO's organizational performance in this study is measured by its ability to use resources, implement policies, strengthen strategic alliances, produce goods and services for stakeholders, and create a positive work culture. KALRO's performance is measured by stakeholder satisfaction, service access, social capital, and financial viability.

Kenya Agricultural and Livestock Research Organization (KALRO)

Established by the Government of Kenya through the Kenya Agricultural and Livestock Research (KALR) Act No. 17 of 2013 (revised in 2019), KALRO emerged from the merger of four parastatals: Kenya Agricultural Research Institute, Tea Research Foundation, Coffee Research Foundation and Sugar Research Foundation. This legislative action defined KALRO's structure, comprising Board of Management, the Directorate, the Secretariat and research institutes. The Board, comprising eight members, oversee governance and aligned KALRO's activities with government policies. The Directorate, led by the Director General coordinates policy implementation. The Secretariat, as implementing arm, included technical and corporate departments responsible for formulating and executing KALRO-wide policies, strategies, and projects. The 17 research institutes, 21 research centres, and 30 sub-research centres operated across the country. With a vision to excel in agricultural and livestock research for transformed livelihoods, KALRO aims to enhance agricultural sector's growth, facilitate technology generation, and coordinate transfer and utilization of research outputs.

1.1 Statement of the Problem

Effective corporate leadership, which is characterized by authenticity, decisiveness, focus, skills, and communication, is a significant contributor to the success of an organization. Concerns continue to be raised about the performance of agricultural and livestock research, despite the fact that these fields play a crucial role in satisfying the demand for food on a global scale. It is anticipated that by the year 2050, there will be a 27% increase in the population that requires a balanced diet (FAO, 2022). Over half a billion farmers have been impacted by the disruption of agricultural productivity caused by global conflicts and economic downturns. Furthermore, 277 million people in Africa are at risk of starvation as a result of these disruptions (FAO, 2021).

Although Kenya's average productivity is higher than that of East Africa and Africa as a whole, the country's productivity is still lower than the average for the entire world (FAO, 2022; GoK, 2019). Kenya has the lowest average monthly food consumption per capita when compared to the averages for East Africa, Africa, and the entire world of food consumption. According to Stephens et al. (2018), African governments have made efforts to direct research centers to operate under well-structured corporate leadership in order to address the challenges that have previously been encountered. The decline in agricultural productivity and the continued existence of food insecurity have persisted despite the existence of a variety of research centres.

Only a small amount of evidence exists regarding the impact of KALRO's corporate leadership on the company's performance. Application of technologies and research findings to the benefit of smallholders continues to be stagnant within KALRO, despite the fact that the organization's leadership structures, and funding are clearly articulated. However, the question that has not been answered is as follows: What is the impact of KALRO's corporate leadership on the company's performance?

1.2 Research Objectives

- i. To establish the effect of corporate leadership on the performance of KALRO.
- ii. To assess validity of corporate leadership indicators on performance of KALRO.

1.3 Research Hypotheses

- H₀₁:** There is no significant relationship between corporate leadership and performance of KALRO.
- H₀₂:** There is no significant validity among indicators measuring corporate leadership of KALRO.

2.0 Literature Review

2.1 Theoretical Review

Leadership and organizational performance dynamics are explained using four theories. Organizational Excellence Theory, based on Peters (1999), stressed strong partnerships, stakeholder engagement, efficient work processes, and effective corporate leadership to achieve organizational success. The theory emphasized top leadership involvement, policy-procedure alignment, value-added partnerships, and stakeholder feedback. It recognizes limitations when policy execution and standardized workflow are neglected (Schwens & Wagner, 2019). Lindblom (1994)'s Legitimacy Theory aligned organizational core values with stakeholder values to maintain legitimacy. Stakeholders give legitimacy and note social contract breaches that could threaten an organization's survival. The theory is criticized for its limited applicability despite its focus on social norms (Solikhah et al., 2020). This theory bridges the "legitimacy gap" between institutional performance and stakeholder expectations in the study.

The third, Institutional Theory, by Meyer and Rowan (1977) and expanded by DiMaggio and Powell (1983) and Scott (2008), held that past actions, leadership styles, and social structures affected organizational performance. Critics say the theory underplays socio-political processes while helping leaders adapt to changing social expectations (Munir, 2019). The fourth, Freeman (1984)'s Stakeholder Theory, emphasizes ethics and stakeholder relationships over shareholders. The theory stresses stakeholder networks, alliances, and partnerships. It fails to address political interference and stakeholder conflicts (Sulkowski et al., 2018).

2.2 Empirical Review

Corporate leadership plays a pivotal role in guiding organizations through complex and transformative objectives, such as enhancing organizational performance through strategic

direction, goal clarification, and the integration of corporate culture (Iqbal et al., 2020). In the face of an increasingly unpredictable corporate landscape, leaders must embrace flexible strategies to facilitate spontaneous decision-making (Montuori & Donnelly, 2018), leading to enhanced organizational performance.

While Bashir et al. (2020) explored how transformational leadership, including corporate leadership principles, influences organizational commitment and performance in Pakistan, with a specific focus on procedural justice and career growth within the judiciary, the results of their study contribute valuable principles and procedures to the present study. However, it is important to note that the context and industry under investigation in the present study differ, as it focuses on determining the effect of corporate leadership on the performance of agriculture-allied organizations forming KALRO. Consequently, the results obtained in the former study may not be readily generalizable to the latter context.

Despite Iqbal et al.'s (2020) examination of organizational learning and psychological empowerment in Malaysia and Indonesia for sustainable leadership and performance, their study had limitations, preventing generalization to KALRO. Therefore, a reevaluation of these concepts is necessary. Gusmão et al. (2018) investigated how strategic leadership affects organizational performance in Timor-Leste's Ministry of Government, employing organizational learning and citizenship behavior as mediators. Despite yielding positive results, the findings from this study cannot be generalized to KALRO.

2.3 Conceptual Framework

The conceptual framework on Figure 1 provides answers to proposed relationships between corporate leadership and performance of KALRO. It helps to test for the first null hypothesis on linkages between dependent and independent variables.

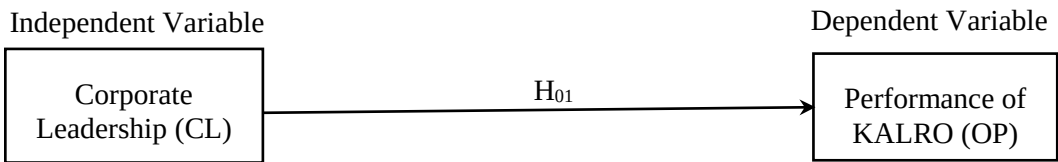


Figure 1: Conceptual Framework

3.0 Research Methodology

Research Philosophy

This study is grounded on a pragmatic philosophy, utilizing both qualitative and quantitative research methods to provide practical solutions to research problems. Pragmatism was chosen as guiding philosophy due to its suitability for mixed-methods approach and in addressing personal biases.

Research Design

Mixed methods research design, specifically concurrent triangulation was used to reduce biases and enable inductive and deductive thinking.

Population of the Study

The target population comprised management divisions of KALRO, including Board of Management, directorate, Secretariat, research institutes, and KALRO Seeds. The unit of observation included 248 respondents, comprising 60 directors and 188 top leaders.

Sampling and Sampling Techniques

Due to small size of target population, comprising 248 top leadership and managers, census was conducted. This ensured detailed assessment without sampling bias.

Data Collection and Instruments

Data collection through census, and analysis procedures were conducted in a one-phased manner, allowing for simultaneous interpretation of results and bias reduction. Quantitative data was gathered through cross-sectional survey, while qualitative data was obtained through interpretive phenomenological analysis. Exploratory factor analysis was used to determine sufficient and acceptable sample size. Primary data was collected using structured questionnaire with Likert scale for quantitative assessment and focus group discussions for qualitative insights. Questionnaire covered demographic data and focused on variables such as corporate leadership and organizational performance.

Pilot Study

Pilot study involving 16 respondents (6% of target population) was conducted to identify and rectify any flaws in design or procedures.

Reliability and Validity Tests

The diagnostic tests conducted included evaluations for homoscedasticity, normality, autocorrelation, and multicollinearity, all of which met the criteria for statistical significance. The validity of the data was ensured by using Levene's test to assess the homogeneity of the variable based on mean, as well as the Durbin-Watson statistics to examine autocorrelation. Cronbach's coefficient alpha was used to measure reliability, while construct validity was used to assess validity. The questionnaire received expert review to assess its content validity, while statistical tests were performed to evaluate its construct and criterion validity.

Data Analysis

A mixed methods approach was used for data analysis. The data was analyzed using SPSS for quantitative data and NVivo for qualitative data. SPSS was utilized to reverse code negatively worded Likert scale items in order to mitigate any potential bias. Similarly, the simple linear regression model determining the effect of corporate leadership (CL) on the performance of KALRO (OP) was formulated as follows:

$$OP = \beta_0 + \beta_1CL + \varepsilon \dots\dots\dots (1)$$

The construct for the independent variable, corporate leadership, was defined to include multiple indicators that were expected to contribute to the effectiveness of corporate leadership. The indicators adopted included: strategic direction, clarity of organizational

mandate, human capital, and corporate culture. The computation of the composite indicator was based on the following:

$$CL = \Sigma \{ (w_{t1}SD + w_{t2}CG + w_{t3}HC + w_{t4}CC) \} / 4 \dots\dots\dots (2)$$

- Where:
- CL = Composite variable for corporate leadership (Independent Variable)
 - w_{t1} to w_{t4} = relative weights assigned to each indicator of Corporate Leadership (CL)
 - w_{t1}SD, w_{t2}CG, w_{t3}HC, w_{t4}CC = weighted components of Corporate Leadership
 - SD = Extent of Strategic Direction provided by top leadership
 - CG = Clarity of Goals based on approved policies and strategies
 - HC = Human Capital within the organization
 - CC = Corporate Culture mainstreamed within the organization.

In order to enhance the analysis of the effect of corporate leadership on organizational performance, the researcher incorporated these indicators as multiple regression variables into a linear model. The multiple linear regression model that was obtained is as follows:

$$CL = \beta_0 + \beta_1SD + \beta_2CG + \beta_3HC + \beta_4CC + \varepsilon \dots\dots\dots (3)$$

The application of Cronbach's alpha, with a threshold of $\alpha = .700$, confirmed the internal consistency reliability.

Hypothesis Testing

The study employed an empirical model with composite indicators, common in international and governmental research, to assess statistically significant relationships between variables. A composite indicator, consolidating diverse dimensions into a single measure, was created using a weighted linear aggregation rule. Normalization and weighting were conducted for comparability, employing the Min-Max scaler. Table 1 provides comprehensive summary of research objectives, proposed hypotheses, expected analytical models, and suggested interpretations of anticipated results.

Table 1: Summary of Objectives, Hypotheses, Analysis and Model Estimation

Research Objectives	Hypotheses	Analytical Model	Interpretation of Results
i To establish the effect of corporate leadership on performance of KALRO	H₀₁: There is no significant relationship between corporate leadership and performance of KALRO.	Simple regression model: $OP = \beta_0 + \beta_1CL + \varepsilon$	P-value $\leq .05$, reject H ₀₁ . $R^2 \geq .7$ = good model fit. F = overall significance. t = individual significance VIF <10; Tolerance >0 = No multicollinearity.
ii To assess validity of corporate leadership indicators on performance of KALRO	H₀₁: There is no significant validity among indicators measuring corporate leadership of KALRO.	Multiple regression model: $CL = \beta_0 + \beta_1SD + \beta_2CG + \beta_3HC + \beta_4CC + \varepsilon$	

4.0 Results and Discussions

The study's response rate was 85.5%, hence ensuring reliability, validity, statistical power, ethical considerations, credibility, generalizability, and confidence in the findings. Strong internal consistency reliability was shown by the fact that the average coefficients for Cronbach's Alpha and Cronbach's Alpha Based on Standardized Items were .854 and .855, respectively.

4.1 Demographic Characteristics

The gender distribution among respondents showed that there was a significant male presence in KALRO's top leadership, making up 67.9% of the sample. This closely aligned with the two-thirds gender rule that was adopted by KALRO. A majority of corporate leaders in KALRO were at least 45 years old, accounting for over 62% of the respondents. In contrast, those under 25 made up less than one percent. A potential gap was identified in the mentoring and involvement of younger personnel, particularly from Generation X and Millennials. These individuals were known for driving technological advancements and fostering positive changes in organizational culture. The study suggested that Millennials and early Generation X should have been actively engaged, with a focus on their potential contributions to productivity, work-life balance, and innovation. The findings suggested that there was a requirement for mentorship and specific placements for these groups. The leadership structure of KALRO's current positions displayed a diverse composition. The respondents consisted of managers and technical theme leaders, comprising almost half of the total (48.6%). They were followed by the directorate group (30.6%) and junior/middle-level officers (18.4%).

4.2 Descriptive Analysis Results

The analysis of respondents' perceptions of experienced phenomena was conducted using a 5-point Likert scale, which ranged from 1 (strongly disagree) to 5 (strongly agree). The composite score of 38 statements on corporate leadership (22) and organizational performance (16) resulted in a mean score of 3.89 and a standard deviation of .873. The results demonstrated a high level of consensus with the statements, with very little variation observed among the variables. Corporate leadership had an average score of 3.79 with a standard deviation of .957, while organizational performance had an average score of 3.98 with a standard deviation of .789.

In terms of Strategic Direction, survey respondents generally concurred (75%, $M = 4.03$, $SD = .997$) that KALRO's corporate leadership effectively formulated policies, provided appropriate advice to the Cabinet Secretary, improved communication and feedback mechanisms, and evaluated programs. Concerning clarity of Organizational Goals and Mandate, respondents held a very positive perception (84%, $M = 4.29$, $SD = .885$) that KALRO aligned research priorities with national policies, disseminated research findings, clarified work plans, and identified areas for improvement. On the Human Capital front, respondents expressed a meagre level of agreement (44%, $M = 3.13$, $SD = 1.031$) regarding KALRO's conduct of regular personnel assessments and the creation of a conducive work environment. However, there was a recognized need to enhance succession planning and staff replacements after retirements. Results pertaining to Corporate Culture indicated positive agreement among respondents (64%, $M = 3.70$, $SD = .913$) that KALRO actively attached young scientists to senior scientists, emphasized the importance of filling leadership vacuums, managed internal conflicts, and coordinated information flow (Table 2).

Table 2: Descriptive Statistics for Corporate Leadership

Key Indicators of Assessing Corporate Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strong Agree	Total	
	F %	F %	F %	F %	F %	Mean	SD
Strategic Direction (SD)	6 (2.64)	12 (5.81)	34 (16.11)	75 (36.87)	82 (38.60)	4.03	0.997
Clarity of Organizational Goals and Mandate (CG)	4 (1.75)	6 (2.70)	24 (11.23)	71 (33.60)	108 (50.70)	4.29	0.885
Human Capital (HC)	28 (13.08)	45 (20.98)	46 (21.80)	60 (28.30)	34 (15.80)	3.13	1.031
Corporate Culture (CC)	7 (3.12)	19 (9.17)	52 (24.33)	91 (43.06)	44 (20.76)	3.70	0.913
Composite Score	11 (5.15)	20 (9.67)	39 (18.37)	74 (35.46)	67 (31.46)	3.79	.957

In a comprehensive assessment, 75% of respondents agreed that organizational performance, measured through four key indicators, had improved ($M = 3.98$, $SD = .789$). Stakeholder access received strong consensus at 91% ($M = 4.30$, $SD = .703$), highlighting effective service provision in innovation, technology, extension support, private sector linkages, and agricultural technologies access. Goods, products, and services evaluation reported substantial satisfaction at 82% ($M = 4.13$, $SD = .763$), encompassing leadership feedback, stakeholder trust, and research engagements. Social capital assessment reflected general agreement with positive attitudes at 71% ($M = 3.84$, $SD = .799$), emphasizing strong social networks despite deficits in mutual help. Financial viability evaluation indicated general agreement at 68% ($M = 3.64$, $SD = .892$) regarding KALRO's stable financial position, though only 45% expressed confidence in sustaining programs annually, emphasizing the need for improved communication and resource mobilization training (Table 3).

Table 3: Descriptive Statistics for Organizational Performance

Key Indicators of Assessing Organizational Performance	Strongly Disagree	Disagree	Neutral	Agree	Strong Agree	Total	
	F %	F %	F %	F %	F %	Mean	SD
Stakeholder Access to Services	0 (0.00)	6 (2.90)	13 (6.22)	102 (48.32)	90 (42.54)	4.30	0.703
Stakeholder Satisfaction with Goods, Products & Services	0 (0.00)	7 (3.50)	31 (15.54)	101 (47.46)	73 (34.52)	4.13	0.763
Social Capital	1 (0.51)	10 (4.70)	52 (24.30)	109 (51.40)	41 (19.10)	3.84	0.799
Financial Viability	3 (1.55)	21 (9.92)	65 (30.48)	86 (40.38)	38 (18.02)	3.64	0.892
Composite Score	1 (0.51)	11 (5.26)	40 (18.89)	99 (46.89)	61 (28.55)	3.98	0.789

4.3 Correlation Analysis

The study revealed a significant correlation between corporate leadership and organizational performance, with a moderate positive correlation ($r = .613$, $p < .001$). This indicates interconnectedness of variables and supports the rejection of the null hypothesis, highlighting

the importance of effective corporate leadership in enhancing organizational performance (Table 4).

Table 4: Pearson’s Correlation Coefficient of Variables

		Corporate Leadership	Organization Performance
Corporate Leadership	Pearson Correlation	1.000	
	Sig. (2-tailed)		
	N	212	
Organization Performance	Pearson Correlation	.613**	1.000
	Sig. (2-tailed)	<.001	
	N	212	212

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

4.4 Hypothesis Tests

The study employed covariance-based structural equation modeling with factor analysis and linear regression to examine the association between corporate leadership and organizational performance. The Kolmogorov-Smirnov statistic indicated nonsignificant results for corporate leadership (.181) and organizational performance (.273). Similarly, the Durbin-Watson statistic found no autocorrelation (1.913) in regression residuals.

The first hypothesis, asserting no significant link between corporate leadership and KALRO's performance, was refuted by the study. It employed a composite indicator for leadership, integrating strategic direction, organizational mandate clarity, human capital, and corporate culture. A regression model with weighted averages for the constructs revealed a notable correlation, yielding a 37.5% R-Square in the single regression equation and 39.3% in the multiple regression equation (Table 5).

Table 5: Summary of Corporate Leadership and Performance of KALRO

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.613 ^a	.375	.372	.437	.375	126.238	1	210	<.001

a. Predictors: (Constant), Corporate Leadership

Table 6 presents analysis of variance (ANOVA) for the model evaluating linkage between corporate leadership and KALRO's performance. The study rejected the null hypothesis, affirming significant relationship between the variables ($F = 126.238$, $p < .001$). Assessment of multicollinearity revealed no concerns, with tolerance (1.00) and VIF (1.00) values indicating absence of significant correlation among components of corporate leadership variable.

Table 6: ANOVA for Corporate Leadership and Performance of KALRO

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.064	1	24.064	126.238	<.001 ^a
	Residual	40.031	210	.191		
	Total	64.095	211			

a. Predictors: (constant), corporate leadership

In model 1, the unstandardized intercept (1.907, LLCI = 1.535, ULCI = 2.280) indicated that KALRO's performance would have been 1.907 units even without any corporate leadership interventions. The unstandardized coefficient of corporate leadership was .550 (LLCI = .454, ULCI = .647) with significant confidence intervals, confirming certainty about the true population coefficients (Table 7).

Table 7: Effect of Corporate Leadership on Organizational Performance

Model		Unstandardized Coefficients ^a		Standardized Coefficients	T	Sig.	CI	
		B	Std. Error	Beta			LLCI	ULCI
1	(Constant)	1.907	.189		10.096	<.001	1.535	2.280
	Corporate Leadership	.550	.049	.613	11.236	<.001	.454	.647

^a. Dependent Variable: Organizational Performance

The estimated model for organizational performance (OP) was as follows:

$$OP = 1.907 + .550 \times CL \dots\dots\dots (4)$$

The study demonstrated that corporate leadership had a significant impact on organizational performance ($\beta = .613$, $t = 11.236$, $p < .001$), with corporate leadership explaining 37.5% of the variance in organizational performance scores ($R\text{-Square} = .375$). The model's precision and robustness, based on t-values, were significant, exceeding the critical value of 1.969. Okech et al. (2021) affirmed strategic leadership's contribution to organizational performance, while Sekhar et al. (2017) highlighted the impact of diverse human resources on the same outcome. Rejecting the null hypothesis, the study affirmed a significant correlation between corporate leadership and KALRO's performance at a 5% significance level. Wulandari et al. (2022) also demonstrated a positive and substantial impact of leadership style on organizational performance ($t = 4.805$, $p = .024$, $Beta = .227$). By rejecting the null hypothesis, the study concluded that there existed a substantial correlation between corporate leadership and the performance of KALRO.

The second objective of the study aimed to assess the validity of corporate leadership indicators on performance of KALRO. The accompanying hypothesis asserted that there was no significant validity among indicators measuring corporate leadership of KALRO. The model used to analyze the relationship between predictors (corporate culture, strategic direction, human capital, and clarity of goals) and the dependent variable (organizational performance) was statistically significant ($F_{(4, 207)} = 33.454$, $p < .001$). The R^2 of .393 indicated that approximately 39.3% of the variance in organizational performance could be explained by the predictors, while the Adjusted R^2 (.381) showed that 38.1% of the model accounted for

the number of predictors and suggested a moderate level of model parsimony. The model also showed significant contributions from corporate culture, strategic direction, human capital, and clarity of goals, all with $p < .05$. The standardized coefficients (betas) demonstrated the strength and direction of these relationships. The Durbin-Watson statistic (1.913) indicated no significant autocorrelation in the residuals. The model underscores the importance of these factors in organizational success (Table 8).

Table 8: Effect of Corporate Leadership Indicators on Organizational Performance^b

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics				Sig. Change	F	Durbin-Watson
					Change	R Square Change	df1	df2			
1	.627 ^a	.393	.381	.4337	.393	33.454	4	207	.000		1.913

^a Predictors: (Constant), Corporate Culture, Strategic Direction, Human Capital, Clarity of Goals

^b Dependent Variable: Organizational Performance

Table 9 presents analysis of variance (ANOVA) for the model examining the influence of predictors on organizational performance. The results showed that each predictor significantly contributed to explaining the variance in organizational performance ($F_{(4, 207)} = 33.454$, $p < .001$). The regression model accounted for a substantial amount of variance in organizational performance ($R^2 = .393$), as evidenced by the regression sum of squares ($SSR = 25.166$). The mean squares for corporate culture, strategic direction, human capital, and clarity of goals were 1.573, 1.645, 1.401, and 1.671, respectively, representing the average contribution of each predictor to explaining variance in organizational performance. These values indicate the relative impact of each factor, with higher mean squares suggesting a greater influence. The residuals, which show unexplained variation, were very small ($SSE = 38.929$), indicating well-captured relationships between predictors and organizational performance. Assessment of multicollinearity revealed no concerns, with tolerance (1.00) and VIF (1.00) values indicating absence of significant correlation among components of corporate leadership variable.

Table 9: ANOVA^a for Corporate Leadership Indicators and Performance of KALRO

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.166	4	6.291	33.454	.000 ^b
	Residual	38.929	207	.188		
	Total	64.095	211			

^a. Dependent Variable: Organizational Performance

^b. Predictors: (Constant), Corporate Culture, Strategic Direction, Human Capital, Clarity of Goals

The analysis revealed that corporate leadership had a significant impact on organizational performance. Factors such as clear goals, human capital, and a favourable corporate culture played a crucial role. However, the influence of strategic direction was found to be less pronounced in comparison. The constant term indicated a baseline organizational performance of 1.942 ($B = 1.942$, $p < .001$), suggesting that there was a positive baseline organizational performance even in the absence of the leadership factors that were

considered. The impact of clarity of goals was found to be significantly positive ($B = .189$, $Beta = .253$, $p = .001$), suggesting that organizations with clearer goals tended to achieve superior performance. The coefficient for human capital was $.091$ ($Beta = .119$, $p = .097$), indicating a significant positive influence. Additionally, the impact of corporate culture ($B = .269$, $Beta = .339$, $p < .001$) highlighted a strong association between a positive corporate culture and improved organizational performance. On the other hand, the impact of strategic direction was found to be minimal and insignificant ($B = -.014$, $Beta = -.016$, $p = .766$). This indicates that changes in this variable did not have a statistically significant effect on organizational performance (Table 10).

Table 10: Effect of Corporate Leadership on Organizational Performance

Model	Unstandardized Coefficients ^a		Standardized Coefficients		Sig.	CI	
	B	Std. Error	Beta	T		LLCI	ULCI
3 (Constant)	1.942	.251		7.744	.000	1.448	2.437
Strategic Direction	-.014	.048	-.016	-.298	.766	-.110	.081
Clarity of Goals	.189	.057	.253	3.304	.001	.076	.301
Human Capital	.091	.055	.119	1.667	.097	-.017	.199
Corporate Culture	.269	.066	.339	4.058	.000	.139	.400

^a. Dependent Variable: Organizational Performance

The estimated model for organizational performance (OP) based on these indicators of corporate leadership was as follows:

$$OP = 1.942 - .014*SD + .189*CG + .019*HC + .269*CC \dots\dots\dots (5)$$

The study objective of investigating and evaluating how well selected indicators related to corporate leadership within KALRO, and how accurately they were aligned with or predicted KALRO's overall performance, yielded positive results. The null hypothesis, which suggested that there was no significant validity among indicators measuring corporate leadership of KALRO, was rejected. The empirical evidence collected during the assessment of corporate leadership indicators and KALRO's performance indicated that the indicators used to measure corporate leadership within KALRO were highly accurate and relevant in reflecting the organization's performance. However, one indicator - strategic direction - did not show significant results. There existed a notable correlation between the indicators of corporate leadership and the overall performance of KALRO.

Qualitative Data Analysis

Qualitative analysis employed interpretive phenomenological analysis, delving into textual, visual, and verbal responses to contextualize quantitative findings. NVivo software facilitated the transcription of data, which was subsequently coded, categorized, and explored for interconnections between themes. A deductive coding approach was applied to responses from Board members, introducing predetermined categories aligned with research questions. The roles of the Board of Management were investigated through inquiries about strategic activities, policy coordination, and oversight. Emphasis was placed on the Board's pivotal support in achieving KALRO's mandate, encompassing clear approvals, policy oversight, and resource mobilization. Suggestions for venturing into new areas included resource mobilization, strategic networks, and patenting of inventions.

Government support over the preceding five years garnered positive ratings, with satisfaction expressed for enacted laws and policies. Challenges in coordination, as highlighted in the National Agricultural Research System Policy, prompted proposed solutions, underscoring the importance of streamlined policies and support for capacity building. The degree of implementation of approved strategies and policies underwent scrutiny, revealing KALRO's success in research dissemination, policy formulation, and resource mobilization. Top management received advice to concentrate on sustainable resource mobilization and technology dissemination. Policies earmarked for review encompassed funding security, budget consistency, mentorship programs, and collaboration policies. The Science, Technology, and Innovation Act was flagged for revision to accommodate digital agriculture, aligning with global trends.

5.0 Conclusions

The study aimed to determine the relationship between corporate leadership and the performance of KALRO. All the set objectives yielded significant relationships, resulting in the rejection of all null hypotheses. Demographic characteristics revealed male-dominated leadership in KALRO, with potential improvements suggested for gender diversity and inclusivity. The age distribution highlighted the prevalence of leaders aged 45 and above (62%), signaling a need for mentoring and greater involvement of younger personnel. Analysis of leadership positions revealed a disproportionate representation of males (68%), suggesting room for improvement in gender diversity.

The study's first objective established a significant relationship between corporate leadership and KALRO's performance, leading to the rejection of the null hypothesis and the upholding of the alternative hypothesis that there is a significant relationship between corporate leadership and the performance of KALRO ($\text{Beta} = .623$, $t = 11.236$, $p < .001$). The second objective set to investigate how well selected indicators relate to corporate leadership within KALRO. The null hypothesis, which suggested that there was no significant validity among indicators measuring corporate leadership at KALRO, was rejected. A composite regression model determined the effect of corporate leadership on KALRO's performance, showing that these indicators truly reflected the main enablers of corporate leadership in enhancing organizational performance.

Given that all the diagnostic tests were within acceptable thresholds, the study findings were deemed crucial in validating assumptions, identifying outliers, validating models, analyzing residuals, detecting heteroscedasticity, assessing multicollinearity, ensuring overall goodness of fit, enhancing the validity and reliability of statistical analyses, and supporting more accurate and trustworthy conclusions from this research.

6.0 Recommendations

These recommendations aim to strengthen organizational performance through effective corporate leadership strategies. Firstly, KALRO should foster active and consistent engagement between corporate leadership and staff, cultivate a shared vision, and address loopholes that hinder policy implementation. At the same time, KALRO should prioritize mainstreaming the enhancement of monitoring and evaluation systems to enable continuous assessment of organizational processes, identification of areas for improvement, and ensuring efficient corporate leadership. Additionally, there is a need to strengthen resource mobilization efforts and invest in capacity-building initiatives to empower corporate

leadership with the necessary tools and skills. There is a need to heighten efforts to collaborate with development partners, optimize media engagement, and commit to continuous monitoring and learning.

Furthermore, the recommendations emphasize the development of a comprehensive understanding of corporate leadership, exploring avenues to enhance organizational performance through the application of study indicators. This involves a thorough exploration of the theoretical underpinnings of corporate leadership's consequences for organizational success. Corporate leadership should also continue to actively engage with the Ministry of Agriculture and the relevant parliamentary committees, such as the Parliamentary Committee of Agriculture and the Senate Standing Committee on Agriculture. These committees occupy crucial positions for entrenching the research agenda at all levels, besides guaranteeing financial support from the Ministry of Finance.

Similarly, the recommendations advocate for gender diversity within corporate leadership, along with the implementation of leadership development programs for young professionals. Mentorship programs and targeted placements should be mainstreamed to ensure the growth and diversity of leadership talent. Collectively, these recommendations aim to fortify corporate leadership, ensuring it becomes a driving force behind organizational excellence and sustainable growth.

KALRO's performance in agricultural and livestock research is influenced by corporate leadership practices. The study provides a theoretical foundation for similar organizations, emphasizing the need for a comprehensive understanding of corporate leadership and its impact on organizational performance. Policymakers should support KALRO's corporate leadership by engaging with the Ministry of Agriculture and Livestock Development and ensuring financial support from strategic alliances and governments at all levels. In practice, KALRO's top leaders should implement mechanisms for balanced, diversified, and sustained food production, promoting gender diversity, and addressing the growing number of Millennials. Further research is needed to explore additional mediating variables, research environments, and diverse sectoral perspectives on corporate leadership.

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