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Strategic Leadership Capabilities, Institutional Capacity and Conservation Performance at Kenya Wildlife Service

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ABSTRACT: Strategic leadership capabilities are increasingly important for enhancing organizational effectiveness and sustainability in conservation institutions operating in dynamic and resource-constrained environments. Kenya Wildlife Service (KWS) continues to face challenges including poaching, habitat degradation, climate change, resource constraints, and human–wildlife conflicts, which undermine conservation performance. Despite growing research on leadership and organizational performance, limited empirical evidence exists on how strategic leadership capabilities influence conservation performance in wildlife conservation institutions, particularly when institutional capacity is considered as a moderating variable. This study examined the influence of strategic leadership capabilities on conservation performance at KWS and determined the moderating effect of institutional capacity. The study was anchored on Strategic Leadership Theory, Resource-Based View Theory, Dynamic Capabilities Theory, and Stakeholder Theory. It adopted a positivist research philosophy and a descriptive cross-sectional survey design. The target population comprised 1,500 management staff, conservation officers, departmental heads, and administrative personnel, from whom a sample of 316 respondents was selected through stratified random sampling. Primary data were collected using structured questionnaires whose validity and reliability were confirmed through pilot testing. Data were analyzed using SPSS Version 29 through descriptive statistics, Pearson correlation analysis, multiple regression analysis, and hierarchical moderated regression analysis. Findings revealed that strategic vision, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability had positive and statistically significant influences on conservation performance. Strategic resource allocation dimension was found to be insignificant. Institutional capacity significantly moderated the relationships between strategic resource allocation and conservation performance and between organizational adaptability and conservation performance. However, its moderating effects on the relationships between strategic vision, environmental scanning and foresight, and stakeholder engagement and collaboration, respectively, and conservation performance were not statistically significant. The inclusion of the five interaction terms increased the model's explanatory power, with R^2 rising from .667 to .688, representing an additional 2.1% of the variance in conservation performance ($\Delta R^2 = .021$). The change in the model was statistically significant (F-change = 3.703, p = .003), indicating that the interaction terms collectively contributed significantly to explaining conservation performance. Thus, while institutional capacity demonstrated a significant overall moderating effect, this effect was not uniform across all dimensions of strategic leadership capabilities. Specifically, significant moderation was evident only for strategic resource allocation and organizational adaptability, whereas the interaction effects involving strategic vision, environmental scanning and foresight, and stakeholder engagement and collaboration were not statistically significant. The study therefore established that conservation performance depends on both effective strategic leadership capabilities and partly on adequate institutional capacity, including financial resources, competent personnel, technological capability, supportive policies, infrastructure, and inter-agency coordination. The study concludes that strengthening strategic leadership capabilities alongside institutional capacity is essential for improving wildlife protection, biodiversity conservation, ecosystem sustainability, and management of human–wildlife conflicts. The findings contribute to strategic management, conservation management, and environmental governance literature and provide practical guidance to policymakers, conservation managers, and development partners in designing strategies and policies that enhance conservation effectiveness and institutional resilience within Kenya's wildlife conservation sector. They also underscore the importance of aligning leadership interventions with institutional resource capacity.

KEYWORDS: Strategic Leadership Capabilities, Institutional Capacity, Conservation Performance, Wildlife Conservation, Kenya Wildlife Service.

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INTRODUCTION

Background of the Study

Wildlife conservation has become an increasingly important global priority due to escalating environmental challenges, including biodiversity loss, climate change, habitat destruction, ecosystem degradation, illegal wildlife trade, and growing human pressure on natural resources. Conservation institutions are consequently expected not only to protect wildlife and biodiversity but also to promote ecological sustainability while balancing environmental objectives with socio-economic development. These responsibilities are increasingly complex because conservation organizations operate within dynamic ecological, political, technological, and socio-economic environments. Effective conservation therefore requires institutions with strong strategic leadership capabilities that can provide long-term direction, mobilize and allocate resources effectively, anticipate environmental changes, engage diverse stakeholders, and adapt organizational practices to emerging challenges (Hitt et al., 2020; UNEP, 2023). Strategic leadership capabilities have consequently become central to understanding how conservation organizations can achieve sustainable institutional and environmental outcomes.

Strategic leadership capabilities encompass organizational competencies that enable leaders to establish strategic direction, effectively utilize resources, respond to environmental changes, manage stakeholder relationships, and sustain organizational performance. Strategic leadership is particularly important in institutions operating under uncertainty because leaders must continuously align organizational capabilities with changing environmental conditions and strategic priorities (Hitt et al., 2020). In the Kenyan context, Kimaku et al. (2019) established that successful implementation of strategic change in state corporations depends substantially on organizational and stakeholder-related factors, underscoring the importance of strategic leadership in translating institutional intentions into outcomes. Similarly, Seneyia et al. (2026) demonstrated that strategic change management practices significantly contribute to organizational performance in Kenyan public institutions, reinforcing the importance of leadership capabilities in organizations operating within dynamic and complex environments.

Within conservation institutions, strategic leadership capabilities are particularly significant because wildlife management involves interconnected ecological, social, economic, political, and operational challenges. This study conceptualized strategic leadership capabilities through five dimensions: strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability. Strategic vision establishes long-term organizational direction and facilitates alignment between conservation activities and institutional objectives (Northouse, 2022). Strategic resource allocation, on the other hand, facilitates effective deployment of financial resources, personnel, equipment, technology, and other organizational assets towards priority conservation activities (Barney, 1991). Evidence from strategic management research indicates that effective deployment of organizational resources and appropriate strategic choices can enhance organizational performance (Chang'alwa & Kimaku, 2022).

Environmental scanning and foresight enable conservation institutions to identify emerging environmental threats, monitor changes, recognize opportunities, and anticipate future risks. Such capabilities have become increasingly important because conservation organizations operate in environments characterized by climate change, biodiversity loss, habitat degradation, technological change, and evolving wildlife threats (IPBES, 2023). Organizational adaptability complements environmental scanning by enabling institutions to respond to changing conditions through innovation, flexibility, organizational learning, and continuous improvement (Teece, 2018). In their study of the hotel industry in Kenya's Coast counties, Mwachia et al. (2023) demonstrated that dimensions of organizational agility were positively associated with organizational performance, suggesting that the ability of organizations to adjust strategically to environmental changes can enhance performance. Although their study was conducted outside the conservation sector, its findings reinforce the broader strategic management argument that adaptability is important for organizations operating under conditions of environmental uncertainty.

Stakeholder engagement and collaboration are equally critical because contemporary conservation increasingly depends on cooperation among government agencies, local communities, non-governmental organizations, private-sector actors, and development partners. Stakeholder Theory emphasizes that organizational sustainability is partly determined by an institution's ability to recognize and manage relationships with parties that influence or are influenced by its activities (Freeman, 1984). Effective collaboration can enhance community participation, conflict resolution, environmental stewardship, resource mobilization, and legitimacy of conservation interventions. Within Kenya's public-sector context, Kimaku et al. (2019) similarly emphasized stakeholder involvement as an important component in successful strategic change implementation. Consequently, conservation institutions that effectively incorporate stakeholders into planning and implementation may be better positioned to achieve sustainable conservation outcomes.

Institutional capacity further determines the extent to which strategic leadership capabilities can translate into desirable conservation outcomes. Institutional capacity encompasses financial resource adequacy, staff competence, technological capability, infrastructure, policy support, and inter-agency coordination (UNDP, 2022). Conservation institutions with adequate capacity are better positioned to implement strategic initiatives, respond to environmental challenges, and sustain organizational performance, whereas institutional weaknesses may constrain otherwise sound leadership initiatives. This proposition is consistent with the Resource-Based View, which holds that organizational performance depends on the availability, deployment, and effective utilization of valuable strategic resources (Barney, 1991). Recent Kenyan evidence also suggests that strategic initiatives become more effective when organizational and institutional conditions support their implementation. Majani et al. (2026), for instance, found that managing resistance to change through communication, employee involvement, technological adaptability, and capacity building enhanced performance among state corporations in Kenya.

Globally, conservation institutions have increasingly adopted strategic approaches emphasizing long-term vision, environmental foresight, effective resource allocation, stakeholder participation, and organizational adaptability. Strategic vision enables conservation organizations to establish long-term priorities, while environmental scanning facilitates anticipation of emerging ecological threats and opportunities. Effective resource allocation supports deployment of conservation budgets, personnel, technology, infrastructure, and equipment towards priority activities (World Bank, 2024). Nevertheless, many conservation institutions continue to experience inadequate funding, operational inefficiencies, technological limitations, human-resource constraints, and weak institutional systems that adversely affect conservation

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performance. These challenges indicate that possessing strategic leadership capabilities alone may be insufficient unless supported by adequate institutional capacity.

Within Africa, wildlife conservation is particularly significant because of its contribution to biodiversity preservation, tourism development, employment creation, environmental sustainability, and socio-economic development. The continent contains globally significant biodiversity hotspots and wildlife ecosystems, yet conservation institutions continue to confront poaching, illegal wildlife trade, habitat encroachment, climate change, human-wildlife conflict, and inadequate financial resources (African Wildlife Foundation, 2023). These challenges have increased the importance of professional leadership, strategic direction, effective resource allocation, environmental foresight, and adaptive management. However, limited funding, inadequate infrastructure, shortages of skilled personnel, and insufficient technological capabilities continue to constrain many African conservation agencies (UNDP, 2022). Consequently, institutional capacity remains fundamental to the effectiveness of strategic leadership within the African conservation context.

In Kenya, wildlife conservation contributes substantially to biodiversity preservation, tourism development, foreign exchange earnings, environmental sustainability, and community livelihoods. Kenya Wildlife Service (KWS) is the principal state corporation mandated to conserve and manage wildlife resources and protected areas. Its responsibilities include wildlife protection, anti-poaching operations, ecosystem management, biodiversity conservation, and management of human-wildlife conflicts (KWS, 2023). Effective execution of these responsibilities requires strategic leadership capable of establishing conservation priorities, allocating scarce resources appropriately, anticipating environmental threats, coordinating stakeholders, and adapting institutional approaches to changing ecological and operational circumstances. The importance of strategic management within Kenyan organizations has similarly been demonstrated in other sectors, where strategic planning, implementation, leadership, partnerships, adaptability, and other strategic management practices have been associated with organizational performance (Chang'alwa & Kimaku, 2022; Mwachia et al., 2023; Seneyia et al., 2026).

Despite continuing conservation initiatives, Kenya's wildlife sector faces persistent challenges associated with poaching, habitat loss, climate change pressures, land-use changes, human-wildlife conflicts, and inadequate conservation funding (KWS, 2023; Ministry of Tourism and Wildlife, 2024). Increasing operational demands and resource constraints further affect conservation effectiveness. Achieving sustainable conservation outcomes at KWS therefore depends considerably on the institution's capacity to develop and communicate strategic vision, allocate resources efficiently, monitor environmental changes, collaborate with stakeholders, and respond adaptively to emerging conservation challenges. These leadership capabilities must simultaneously be supported by adequate financial resources, competent personnel, appropriate technologies, infrastructure, supportive policies, and effective inter-agency coordination.

Although previous studies have examined strategic leadership, strategic change, organizational agility, and organizational performance (Kimaku et al., 2019; Mwachia et al., 2023; Seneyia et al., 2026), relatively limited empirical attention has focused specifically on strategic leadership capabilities and conservation performance within wildlife conservation institutions. Existing conservation research has largely emphasized governance systems, community participation, environmental sustainability, and general institutional effectiveness. Moreover, the role of institutional capacity in strengthening or weakening the relationship between strategic leadership capabilities and conservation performance remains inadequately explored, particularly within KWS. This creates an important contextual and empirical gap because strong strategic leadership capabilities may not necessarily produce desirable conservation outcomes where institutions lack adequate financial resources, expertise, technology, infrastructure, supportive policies, or coordination mechanisms.

Against this background, the study examined the influence of strategic leadership capabilities on conservation performance at Kenya Wildlife Service while considering the moderating role of institutional capacity. Strategic leadership capabilities were represented by strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability. Conservation performance was assessed through wildlife protection effectiveness, reduction in poaching incidents, biodiversity preservation, ecosystem sustainability, community conservation outcomes, and management of human-wildlife conflicts. By integrating strategic leadership capabilities with institutional capacity, the study sought to provide a more comprehensive understanding of the organizational conditions necessary for enhancing conservation effectiveness and sustainable wildlife management in Kenya.

Statement of the Problem

Effective wildlife conservation is fundamental to biodiversity preservation, ecological sustainability, tourism development, and socio-economic wellbeing in Kenya (UNEP, 2023; World Bank, 2024). As the principal state agency mandated to conserve and manage wildlife resources and protected areas, the Kenya Wildlife Service (KWS) is expected to achieve high conservation performance through effective strategic leadership, efficient institutional systems, and sustainable resource management (KWS, 2023). Ideally, strategic leadership capabilities should enable KWS to establish clear long-term conservation direction, allocate resources efficiently, anticipate environmental threats, engage stakeholders effectively, and adapt to changing ecological and operational conditions (Hitt et al., 2020; Northouse, 2022).

Despite these expectations, Kenya's wildlife sector continues to experience persistent challenges, including poaching, habitat degradation, increasing human-wildlife conflicts, climate change pressures, land-use changes, and resource constraints (KWS, 2023; Ministry of Tourism and Wildlife, 2024). These challenges potentially undermine conservation effectiveness and place increasing pressure on KWS to strengthen its strategic and institutional responses. They may further indicate limitations in critical strategic leadership capabilities, including strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability. Strategic leadership is particularly important in dynamic environments because it enables organizations to anticipate change, align resources with strategic priorities, and sustain performance (Hitt et al., 2020).

The challenge may be compounded by variations in institutional capacity. Strategic leadership capabilities may not necessarily translate into improved conservation performance where institutions experience inadequate financial resources, shortages of competent personnel, limited technological capability, inadequate infrastructure, insufficient policy support, and weak inter-agency coordination (UNDP, 2022). Consistent with the Resource-Based View, organizational effectiveness depends significantly on the availability and effective deployment of strategic resources (Barney, 1991). Evidence from Kenyan organizations further demonstrates the importance of organizational conditions in translating strategic

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initiatives into performance outcomes. Kimaku et al. (2019), for instance, established that leadership commitment and employee participation are important to successful strategic change implementation in Kenyan state corporations, underscoring the importance of institutional support for effective strategy execution.

Although previous studies have examined strategic leadership and organizational performance, much of the literature has concentrated on employee performance, service delivery, organizational effectiveness, governance, and community participation rather than specific conservation outcomes (Ashkevari & Ghasemi, 2023; Taferner, 2023). In Kenya, Chang'alwa and Kimaku (2022) demonstrated an association between corporate-level strategy and organizational performance, while Mwachia et al. (2023) established the importance of organizational agility dimensions in enhancing performance. Similarly, Kimaku et al. (2019) demonstrated the significance of organizational factors in successful strategic change implementation. However, these studies were conducted outside wildlife conservation and did not specifically examine how strategic leadership capabilities collectively influence wildlife protection, poaching reduction, biodiversity preservation, ecosystem sustainability, community conservation outcomes, and human-wildlife conflict management at KWS. This leaves an important contextual and empirical gap.

More importantly, limited empirical evidence exists regarding whether institutional capacity strengthens or weakens the relationship between strategic leadership capabilities and conservation performance at KWS. Consequently, a theoretical gap exists concerning the interaction between leadership capabilities and institutional resources, alongside a contextual gap within wildlife conservation institutions and a practical gap regarding the conditions necessary for translating strategic leadership into improved conservation outcomes. This study therefore sought to address these gaps by examining the influence of strategic leadership capabilities on conservation performance at Kenya Wildlife Service and determining the moderating role of institutional capacity in this relationship.

Objective of the Study

The study was guided by two objectives:

i). To determine the influence of strategic leadership capabilities on conservation performance at Kenya Wildlife Service

ii). To determine the moderating effect of institutional capacity on the relationship between strategic leadership capabilities and conservation performance at Kenya Wildlife Service.

Research Hypotheses

The study sought to test the following research hypotheses:

i). **$H_0$1:** Strategic leadership capabilities had no statistically significant influence on conservation performance at Kenya Wildlife Service

ii). **$H_0$2:** Institutional capacity had no statistically significant moderating effect on the relationship between strategic leadership capabilities and conservation performance at Kenya Wildlife Service.

REVIEW OF LITERATURE

The study was anchored on four complementary theories: Strategic Leadership Theory, Resource-Based View (RBV) Theory, Dynamic Capabilities Theory, and Stakeholder Theory. Collectively, these theories explain how strategic leadership capabilities influence conservation performance and how institutional capacity may strengthen or constrain this relationship. Strategic Leadership Theory served as the principal theory because it directly explains the leadership capabilities represented by the study's independent variables.

Strategic Leadership Theory, advanced by Hitt, Ireland, and Hoskisson (2007) and subsequently developed by Hitt et al. (2020), proposes that organizational success depends on leaders' ability to provide long-term direction, mobilize resources, anticipate environmental changes, and align organizational capabilities with strategic objectives. The theory emphasizes strategic vision, decision-making, environmental scanning, innovation, and adaptability. Its relevance to this study lies in explaining how strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability can enhance conservation performance at Kenya Wildlife Service (KWS). Given challenges such as climate change, habitat degradation, biodiversity loss, poaching, and human-wildlife conflicts, KWS requires strategic leadership capable of anticipating and responding effectively to environmental uncertainties.

The Resource-Based View Theory, developed by Barney (1991), posits that organizational performance depends on acquiring and effectively utilizing valuable, rare, inimitable, and non-substitutable resources. These include financial resources, skilled personnel, technology, infrastructure, and organizational capabilities. In this study, RBV supports the moderating role of institutional capacity because the effectiveness of strategic leadership capabilities may depend on the availability and adequacy of institutional resources. Thus, even strong strategic leadership may generate limited conservation outcomes where financial, technological, human, and infrastructural capacities are inadequate.

Dynamic Capabilities Theory, associated with Teece, Pisano, and Shuen (1997), complements Strategic Leadership Theory by explaining how organizations respond to rapidly changing environments through sensing emerging opportunities and threats, reconfiguring resources, learning, and adapting organizational capabilities. The theory is particularly relevant to environmental scanning and foresight and organizational adaptability because conservation institutions must continually adjust strategies to ecological and operational changes.

Finally, Stakeholder Theory, developed by Freeman (1984), argues that organizational effectiveness depends on appropriately managing relationships with stakeholders who affect or are affected by organizational activities. For KWS, these include local communities, government agencies, conservation partners, NGOs, and development partners. The theory therefore supports stakeholder engagement and collaboration as an important strategic leadership capability. Overall, the four theories provide an integrated explanation of leadership direction, institutional resources, adaptability, and stakeholder relationships in determining conservation performance at KWS.

Conceptually, the hypothesized relationship between strategic leadership capabilities, institutional capacity, and conservation performance at Kenya Wildlife Service (KWS). Strategic leadership capabilities constitute the independent variable and comprise strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability. Conservation performance is the dependent variable, reflected through wildlife protection effectiveness, poaching reduction, biodiversity preservation, ecosystem sustainability, community conservation outcomes, and management of human-wildlife conflicts. Institutional capacity serves as the moderating variable, represented by financial resources, staff competence, technological capability, infrastructure adequacy, policy

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support, and inter-agency coordination, potentially strengthening or weakening the relationship between strategic leadership capabilities and conservation performance.

Empirical studies increasingly demonstrate that strategic leadership capabilities influence organizational performance by strengthening strategic direction, resource utilization, environmental responsiveness, stakeholder relationships, and organizational adaptability. Ashkevari and Ghasemi (2023) established that strategic leadership enhances organizational effectiveness through strategic decision-making, vision development, and alignment of organizational activities. Similarly, Appleton et al. (2022) found that conservation institutions require professionalized personnel, effective resource allocation, clear strategic direction, and adaptive management systems to enhance conservation effectiveness. These findings suggest that strategic leadership capabilities are particularly relevant to conservation institutions operating in complex and uncertain environments.

Regarding environmental responsiveness, Yahia-Marzouk and Jin (2022) established that environmental scanning enhances organizations' ability to identify emerging threats and opportunities and respond proactively to environmental uncertainty. Organizational adaptability is equally important in dynamic environments. Mwachia et al. (2023), established that organizational agility dimensions influenced the performance of the hotel industry in Kenya's Coast counties. Although undertaken in a different sector, the study demonstrates the importance of organizational responsiveness and adaptability in enhancing performance. This finding is relevant to KWS, where changing climatic, ecological, technological, and operational conditions require adaptive organizational capabilities.

Stakeholder engagement has also emerged as an important determinant of organizational effectiveness. Ezeh et al. (2024) and Porzecanski et al. (2022) established that stakeholder participation, institutional collaboration, and capacity development contribute to sustainable conservation outcomes. Within Kenya, Kimaku et al. (2019) found that leadership commitment and employee participation were important determinants of successful strategic change implementation in state corporations. Similarly, Chang'alwa and Kimaku (2022) linked corporate-level strategy to organizational performance, reinforcing the importance of strategic management practices in Kenyan organizations.

Despite these empirical contributions, previous studies have predominantly examined general organizational performance, strategic change, governance, community participation, and institutional effectiveness rather than conservation-specific outcomes. Moreover, limited empirical research has examined institutional capacity as a moderator between strategic leadership capabilities and conservation performance. This study therefore addressed this gap by examining the influence of strategic leadership capabilities on conservation performance at KWS while determining the moderating role of institutional capacity.

Conceptual Framework

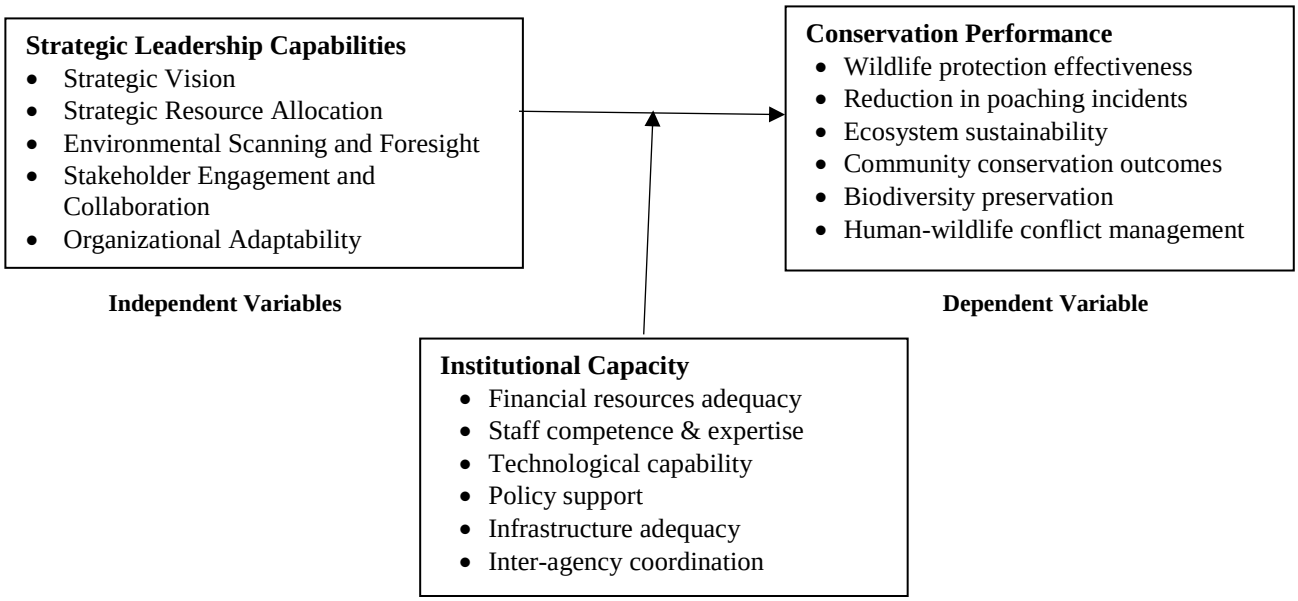


Figure 2.1: Conceptual Framework

MATERIALS AND METHODS

Research Design

The study adopted a positivist research philosophy and employed a descriptive cross-sectional survey design. Positivism supports objective measurement and statistical examination of relationships among variables (Creswell & Creswell, 2018). The cross-sectional design facilitated quantitative data collection at a single point in time to examine relationships among strategic leadership capabilities, institutional capacity, and conservation performance at KWS.

Target Population and Sampling Technique

The study targeted 1,500 Kenya Wildlife Service employees, comprising management staff, conservation officers, departmental heads, and administrative personnel. These categories were appropriate because of their involvement in wildlife conservation, environmental management, strategic planning, and operational activities and their knowledge of the study variables. A sample of 316 respondents was selected using stratified random sampling. Stratification facilitates representation of important subgroups within heterogeneous populations and improves sample representativeness (Saunders et al., 2019). Accordingly, the target population was categorized into relevant organizational strata, after which

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respondents were randomly selected from the respective groups. This approach minimized sampling bias while ensuring that different categories of KWS personnel were adequately represented in the study.

Instrumentation and Data Collection Procedure

Primary data were collected using a structured questionnaire designed to obtain quantitative information on strategic leadership capabilities, institutional capacity, and conservation performance. Structured questionnaires facilitate standardized collection of comparable responses from relatively large samples (Creswell & Creswell, 2018). The instrument covered strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, organizational adaptability, institutional capacity, and conservation performance. Prior to the main survey, the questionnaire was pilot-tested to establish its validity and reliability. Necessary adjustments were subsequently incorporated before administration to sampled KWS employees. Ethical principles, including informed consent, confidentiality, anonymity, and voluntary participation, were observed throughout data collection.

Data analysis

Quantitative data collected through the questionnaires were coded, cleaned, organized, and analyzed using the Statistical Package for Social Sciences (SPSS) Version 29. Both descriptive and inferential statistical techniques were employed, consistent with the study's quantitative orientation. Descriptive statistics comprising frequencies, percentages, means, and standard deviations were used to summarize respondents' characteristics and responses regarding the study variables. Inferential statistics were subsequently employed to establish relationships and test the formulated hypotheses (Hair et al., 2019). Pearson correlation analysis was used to determine the direction and strength of associations between strategic leadership capabilities and conservation performance. Multiple regression analysis was conducted to determine the influence of strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability on conservation performance. Hierarchical moderated regression analysis was further employed to determine whether institutional capacity moderated these relationships. Interaction terms between institutional capacity and the strategic leadership capability dimensions were incorporated into the regression models to test moderation. Consistent with moderation analysis principles (Hayes, 2022), statistically significant interaction effects indicated moderation. Hypotheses were evaluated at a 5% significance level ($p < .05$), providing the basis for accepting or rejecting the respective null hypotheses and drawing conclusions.

Regression Models

Model 1: Direct Effects Model

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + e$$

Model 2: Moderation Model

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_M M + e$$

Model 3: Interaction Model

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_M M + \sum_{i=1}^{5} \beta iMXiM + e$$

Where:

Y represented Conservation Performance;

X_1 Strategic Vision; X_2 Strategic Resource Allocation; X_3 Environmental Scanning and Foresight; X_4 Stakeholder Engagement and Collaboration; X_5 Organizational Adaptability;

M Institutional Capacity (moderator);

β_0 the constant term;

β_1–β_5 = Regression coefficients of independent variables,

β_M = Regression coefficient of moderator (Institutional Capacity)

βi_M = Coefficient of interaction term, e = Error term, XiM = Interaction/Product term

Ethical Considerations

Ethical approval for the study was obtained from the Ethics Review Committee of Taita Taveta University prior to data collection. Participation was voluntary, and respondents provided informed consent after being adequately informed about the purpose of the study. Respondents' anonymity and confidentiality were safeguarded through the use of unique identification codes, while collected data were securely stored with access restricted to authorized persons. Participants were also informed of their right to withdraw from the study without any adverse consequences. Throughout the data collection process, enumerators adhered to established ethical standards by maintaining professionalism, respecting participants' rights, and ensuring confidentiality in all interactions.

RESULTS

A total of 316 questionnaires were issued to respondents, with 294 filled and returned. The returned questionnaires formed a response rate of 96.3% as shown in Table 1.

Table 1: Response Rate

Questionnaire	Frequency	Percent
Returned	294	93.0
Non returned	22	7.0
Total	**316**	**100.0**

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Demographic Information Analysis

Table 2: Demographic Characteristics of Respondents

Characteristic / Category	Frequency	Percent (%)
Gender		
Male	187	63.6
Female	107	36.4
Employment Category		
Permanent	247	84.0
Contract	47	16.0
Functional Area		
Conservation	172	59.1
Administration	66	22.7
Other	53	18.2
Supervisory Level		
Top Management	27	9.2
Middle Management	177	60.2
Operations Staff	90	30.6
Age Bracket		
18-25 years	15	5.1
26-35 years	87	29.6
36-45 years	132	44.9
46-55 years	54	18.4
Above 55 years	6	2.0
Highest Level of Education		
Certificate	47	16.0
Diploma	83	28.2
Degree	121	41.2
Masters	43	14.6
Years of Service at KWS		
Less than 5 years	80	27.7
5-10 years	18	6.2
11-15 years	45	15.6
Above 15 years	146	50.5
Total	**294**	**100.0**

Note. N = 294 unless otherwise indicated by missing values for a given item. Source: Field data (2026).

Key Findings

The descriptive analysis revealed generally positive perceptions of strategic leadership capabilities, institutional capacity, and conservation performance at Kenya Wildlife Service (KWS). Strategic vision recorded a high overall mean of 4.20 (SD = 0.764), indicating that respondents generally perceived KWS as having a strong and clearly articulated strategic direction. The highest-rated aspects were the alignment of conservation goals with the organization's mission (M = 4.60), the existence of a clearly documented long-term conservation strategy (M = 4.50), and communication of a clear long-term conservation vision (M = 4.52). However, employees' understanding of long-term conservation priorities received a comparatively lower rating (M = 3.65), suggesting scope for strengthening internal understanding and alignment with long-term priorities.

Strategic resource allocation recorded an overall mean of 3.60 (SD = 0.926), reflecting moderately positive perceptions of the allocation and utilization of conservation resources. Financial resources supporting conservation goals received the highest rating (M = 4.05), followed by efficient resource utilization (M = 3.89) and adequate funding of modern surveillance equipment (M = 3.87). Conversely, ranger deployment according to conservation risk levels recorded the lowest mean (M = 3.13), followed by conservation equipment distribution (M = 3.34) and

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adequate budget allocation to conservation projects (M = 3.36). These results suggest that although KWS generally directs resources towards conservation priorities, weaknesses remain in the deployment and distribution of some critical resources.

Environmental scanning and foresight achieved an overall mean of 3.82 (SD = 0.902), indicating that KWS generally monitors environmental developments and incorporates emerging information into conservation decision-making. Environmental scanning enhancing conservation effectiveness received the highest rating (M = 4.04), followed by the incorporation of climate-related risks into conservation decisions (M = 3.97). However, the existence of early-warning systems for emerging conservation threats (M = 3.63) and monitoring of technological developments (M = 3.64) were comparatively weaker, highlighting areas requiring further strengthening.

Stakeholder engagement and collaboration emerged as the strongest strategic leadership capability, recording an overall mean of 4.27 (SD = 0.758). Inter-agency collaboration in enhancing conservation protection received the highest rating (M = 4.55), followed by collaboration with government agencies (M = 4.50), maintenance of strong partnerships (M = 4.46), and community engagement in improving conservation outcomes (M = 4.46). The findings demonstrate strong stakeholder relationships at KWS, although engagement with county governments (M = 3.95) and the influence of community feedback on conservation policies (M = 4.01) were comparatively lower.

Organizational adaptability recorded an overall mean of 3.83 (SD = 0.843), indicating that KWS demonstrates a generally positive capacity to respond to environmental changes, embrace innovation, learn from experience, and adopt new conservation technologies. Adaptability enhancing conservation effectiveness received the highest rating (M = 4.17), while embracing innovation (M = 4.03) and responding to environmental changes (M = 3.99) were also positively rated. Policy flexibility recorded the lowest rating (M = 3.47), while employees' ability to adapt quickly and continuous improvement of strategies each recorded M = 3.57, suggesting that these dimensions require further institutional attention.

Institutional capacity recorded an overall mean of 3.66 (SD = 0.936), indicating moderate institutional capacity to support conservation activities. Effective collaboration with other agencies and stakeholders received the highest rating (M = 4.27), followed by KWS's operational capacity to respond to conservation challenges (M = 3.94) and employees' possession of the necessary conservation skills (M = 3.91). However, adequacy of financial resources (M = 3.22) and reliability and timeliness of conservation programme funding (M = 3.17) received the lowest ratings. These findings identify financial capacity as a particularly important institutional constraint requiring attention.

Finally, conservation performance was rated highly, with an overall mean of 4.18 (SD = 0.750). The strongest outcome was the perceived reduction in poaching incidents (M = 4.58), followed by improved wildlife protection effectiveness (M = 4.49). KWS's response to emerging conservation threats (M = 4.15) and increased community participation in conservation (M = 4.14) were also rated highly. Successful implementation of conservation programmes recorded the lowest mean (M = 3.94), although this still reflected a generally positive assessment. Overall, the descriptive findings indicate strong strategic leadership capabilities and conservation performance at KWS, particularly in strategic vision and stakeholder engagement, while highlighting the need to strengthen strategic resource allocation, organizational adaptability, and institutional capacity, especially the adequacy and reliability of conservation financing.

Table 3: Strategic Vision results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
KWS communicates a clear long-term conservation vision.	1.3	2.4	2.7	30.6	62.9	**4.52**	**.739**
Conservation goals are aligned with the organization's mission.	1.0	0.3	2.0	31.3	65.3	**4.60**	**.653**
Leaders provide clear strategic direction for conservation activities.	0.3	3.4	9.2	52.4	34.7	**4.18**	**.759**
Employees understand long-term conservation priorities.	1.7	6.1	30.6	48.3	13.3	**3.65**	**.848**
Strategic plans guide conservation operations.	1	0.7	8.2	42.2	48.0	**4.35**	**.746**
Conservation objectives are consistently communicated.	0.3	3.7	11.2	53.4	31.3	**4.12**	**.771**
Leadership inspires commitment to conservation goals.	0.3	3.1	10.5	56.5	29.6	**4.12**	**.736**
Strategic vision supports sustainable wildlife management.	0.7	7.5	25.1	10.3	56.5	**4.14**	**.694**
KWS has clearly documented long-term conservation strategy	1.4	1.4	5.4	29.6	62.2	**4.50**	**.778**
Conservation targets are regularly reviewed against strategic objectives	0.7	3.4	16.3	45.9	33.7	**4.09**	**.832**
Employees participate in communicating conservation goals	1.7	2.7	21.1	49.7	24.8	**3.93**	**.848**
AVERAGE						**4.20**	**0.764**

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Source: Field data (2026).

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Table 4: Strategic Resource Allocation Results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
Conservation budgets are allocated effectively.	4.1	8.2	36.4	43.9	7.5	**3.43**	**.897**
Personnel are deployed efficiently.	5.1	11.2	33.7	39.5	10.5	**3.39**	**.991**
Conservation equipment is adequately distributed.	2.7	11.9	42.5	34.7	8.2	**3.34**	**.889**
Resources are prioritized according to conservation needs.	3.4	10.2	28.2	38.4	19.7	**3.61**	**1.022**
Financial resources support conservation goals.	1	2.7	17.3	48.6	30.3	**4.05**	**.823**
Resources are allocated to critical projects.	2.0	6.1	24.5	42.2	25.2	**3.82**	**.947**
Allocation decisions are strategic.	1.7	5.8	28.2	48.0	16.3	**3.71**	**.867**
Resources are utilized efficiently.	1.7	2.0	24.5	49.3	22.4	**3.89**	**.833**
Conservation projects receive adequate budget allocation	3.7	9.2	40.1	41.5	5.4	**3.36**	**.866**
Ranger deployment reflects conservation risk levels	8.8	17.3	34.7	30.6	8.5	**3.13**	**.970**
Modern surveillance equipment is adequately funded	2.4	6.5	20.7	42.9	27.6	**3.87**	**1.078**
Average						**3.60**	**0.926**

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Source: Field data (2026).

Table 5: Environmental Scanning and Foresight Results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
KWS monitors environmental changes.	0.7	9.9	12.9	58.5	18.0	**3.83**	**.860**
Emerging threats are identified promptly.	2.4	6.8	22.8	48.0	20.1	**3.77**	**.929**
KWS anticipates future challenges.	1.0	6.8	20.1	51.7	20.4	**3.84**	**.863**
Environmental information informs decisions.	1.0	4.1	23.5	48.3	23.1	**3.88**	**.843**
Strategies are informed by trends.	1.4	2.7	28.2	45.9	21.8	**3.84**	**.842**
KWS responds proactively to risks.	1.0	7.8	23.8	39.8	27.6	**3.85**	**.948**
Leaders monitor technological developments.	2.0	7.5	33.7	38.4	18.4	**3.64**	**.935**
Environmental scanning enhances effectiveness.	0.0	5.1	17.7	45.6	31.6	**4.04**	**.836**
KWS uses environmental intelligence reports in planning	1.0	9.9	25.9	43.2	20.1	**3.72**	**.931**
Climate related risks are incorporated into conservation decisions	1.7	5.8	13.3	52.7	26.5	**3.97**	**.885**
Early warning systems exist for emerging conservation	2.4	13.3	26.9	34.0	23.5	**3.63**	**1.056**
Average						**3.82**	**0.902**

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Source: Field data (2026).

Table 6: Stakeholder Engagement and Collaboration results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
Communities participate in conservation.	0.0	1.0	13.9	49.7	35.4	**4.20**	**.706**
KWS collaborates with government agencies.	0.7	0.0	4.1	39.1	56.1	**4.50**	**.644**
NGO partnerships strengthen conservation.	0.0	1.0	9.5	50.0	39.5	**4.28**	**.674**
Stakeholders are involved in planning.	1.7	2.7	17.0	46.9	31.6	**4.04**	**.866**

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KWS maintains strong partnerships.	0.0	0.7	8.5	35.0	55.8	**4.46**	**.679**
Community engagement improves outcomes.	0.0	0.7	8.5	35.0	55.8	**4.46**	**.626**
Inter-agency collaboration enhances protection.	0.7	0.0	3.1	36.1	60.2	**4.55**	**.647**
Stakeholder feedback is incorporated.	0.0	0.7	6.8	41.2	51.4	**4.43**	**.819**
Communities are consulted before major conservation decisions	0.7	3.4	17.0	48.6	30.3	**4.04**	**.892**
KWS regularly engages county governments	3.1	1.0	21.1	48.0	26.9	**3.95**	**.896**
Community feedback influences conservation policies	2.7	2.4	16.0	49.0	29.9	**4.01**	**.887**
Average						**4.27**	**0.758**

Table 7: Organizational Adaptability results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
KWS responds to environmental changes.	0.0	5.1	10.9	63.6	20.4	**3.99**	**.720**
The institution embraces innovation.	0.7	2.7	19.4	46.9	30.3	**4.03**	**.817**
Policies are flexible.	1.7	9.9	40.5	35.4	12.6	**3.47**	**.896**
Employees adapt quickly.	1.4	9.9	30.6	46.9	11.2	**3.57**	**.867**
KWS improves strategies continuously.	1.4	9.9	30.6	46.9	11.2	**3.57**	**.757**
New technologies are adopted.	0.7	4.8	21.1	49.7	23.8	**3.91**	**.834**
Institution learns from experience.	0.0	5.8	15.3	52.7	26.2	**3.99**	**.805**
Adaptability enhances effectiveness.	0.7	0.7	16.0	46.3	36.4	**4.17**	**.765**
KWS quickly modifies strategies when conservation condition change	0.0	8.8	22.4	43.5	25.2	**3.85**	**.900**
Staff are encouraged to experiment with innovative conservation approaches	1.0	11.6	22.1	43.5	21.8	**3.74**	**.962**
KWS adopts new conservation technologies promptly	0.7	8.5	22.1	39.8	28.9	**3.88**	**.948**
Average						**3.83**	**0.843**

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Source: Field data (2026).

Table 8: Institutional Capacity results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
KWS has adequate financial resources for conservation activities.	4.4	21.1	33.0	31.0	10.5	**3.22**	**1.036**
Funding for conservation programmes ire liable and timely	3.4	22.1	39.8	23.5	11.2	**3.17**	**1.008**
Employees possess the necessary skills for conservation work.	1.0	6.8	20.1	44.6	27.6	**3.91**	**.914**
Staff receive adequate training to enhance conservation effectiveness	1.7	11.9	29.6	31.6	25.2	**3.67**	**1.034**
KWS has adequate technological systems for conservation management.	2.0	13.3	33.3	37.1	14.3	**3.48**	**.962**
Existing infrastructure adequately supports conservation operations	2.7	17.0	28.6	37.1	14.6	**3.44**	**1.023**
Conservation policies effectively support programme implementation	1.4	4.4	19.4	54.8	20.1	**3.88**	**.825**
KWS collaborates effectively with other agencies and stakeholders in conservation efforts	0.7	0.7	11.9	44.9	41.8	**4.27**	**.747**
KWS has the operational capacity to respond effectively to conservation challenges.	0.0	7.5	19.0	45.2	28.2	**3.94**	**.878**
Average						**3.66**	**0.936**

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Source: Field data (2026).

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Table 9: Conservation Performance results

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
Wildlife protection effectiveness has improved at KWS.	0.0	0.7	2.4	44.2	52.7	**4.49**	**.583**
Poaching incidents have reduced in recent years.	0.7	0.0	4.4	30.6	64.3	**4.58**	**.644**
KWS effectively manages human-wildlife conflict.	2.0	6.5	12.6	46.6	32.3	**4.01**	**.946**
Biodiversity conservation outcomes have improved.	0.0	2.0	21.1	44.6	32.3	**4.07**	**.783**
Ecosystem sustainability has improved within conservation areas.	0.3	1.7	17.7	52.0	28.2	**4.06**	**.746**
Community participation in conservation has increased.	0.7	2.0	15.0	47.3	35.0	**4.14**	**.791**
Conservation programs are implemented successfully.	0.3	5.1	19.0	51.0	24.5	**3.94**	**.818**
KWS effectively responds to emerging conservation threats.	0.0	3.1	8.2	59.5	29.3	**4.15**	**.690**
Average						**4.18**	**0.750**

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Source: Field data (2026).

Correlation Analysis

Pearson correlation analysis was undertaken to determine the direction and strength of associations between strategic leadership capabilities and conservation performance at Kenya Wildlife Service (KWS). The analysis focused on the five dimensions of strategic leadership capability; strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability, alongside institutional capacity and conservation performance. The study methodology specified Pearson correlation as the appropriate technique for establishing these associations.

Overall, the correlation results indicated that the dimensions of strategic leadership capabilities were positively associated with conservation performance. This implies that improvements in strategic leadership practices were associated with corresponding improvements in wildlife protection, reduction in poaching, biodiversity preservation, ecosystem sustainability, community conservation outcomes, and management of human-wildlife conflicts. The positive relationships provide preliminary empirical support for the proposition that strengthening strategic leadership capabilities can contribute to enhanced conservation performance at KWS.

In particular, strategic vision demonstrated a positive relationship with conservation performance, suggesting that clearly defined and communicated long-term conservation priorities are associated with better conservation outcomes. Strategic resource allocation was also positively associated with conservation performance, indicating that effective deployment of financial resources, personnel, technology, equipment, and other organizational resources is important for conservation effectiveness. Similarly, the positive association between environmental scanning and foresight and conservation performance suggests that monitoring environmental changes, identifying emerging threats, and anticipating future conservation challenges are important in improving KWS outcomes.

The findings further indicated positive associations involving stakeholder engagement and collaboration and organizational adaptability. This suggests that stronger relationships with communities, government agencies, NGOs, and other conservation stakeholders, together with the capacity to innovate and adjust to changing ecological and operational circumstances, are associated with improved conservation outcomes. These relationships are consistent with the study's conceptualization of stakeholder relationships and adaptability as important dimensions of strategic leadership capability.

Institutional capacity was also positively related to conservation performance and is particularly important because it encompasses financial resources, staff competence, technological capability, infrastructure, policy support, and inter-agency coordination. Collectively, the correlation findings therefore suggest that conservation performance at KWS is associated not only with strong strategic leadership capabilities but also with the institutional resources required to operationalize them. However, because correlation establishes association rather than causation, the results provided the basis for the subsequent regression and moderation analyses used to determine predictive and moderating effects.

Table 10: Correlation Matrix for Study Variables

Variable	Y	X1	X2	X3	X4	X5	M
Conservation Performance	1						
Strategic Vision	0.552**	1					
Strategic Resource Allocation	0.602**	0.622**	1				
Environmental Scanning & Foresight	0.676**	0.576**	0.780**	1			

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Stakeholder Engagement & Collaboration	0.689**	0.559**	0.645**	0.618**	1		
Organizational Adaptability	0.681**	0.537**	0.659**	0.764**	0.602**	1	
Institutional Capacity	0.680**	0.445**	0.639**	0.631**	0.491**	0.692**	1

Note. **Correlation is significant at the 0.01 level (2-tailed). Y = Conservation Performance, X1 = Strategic Vision, X2 = Strategic Resource Allocation, X3 = Environmental Scanning and Foresight, X4 = Stakeholder Engagement and Collaboration, X5 = Organizational Adaptability, M = Institutional Capacity. N = 294.

Regression Analysis

Table 11 shows a progressive improvement in the explanatory power of the regression model across the three stages. In Model 1, the five strategic leadership capabilities—strategic vision, strategic resource allocation, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability—produced R = .782, R^2 = .612, and Adjusted R^2 = .605. This means that the five capabilities jointly explained 61.2% of the variation in conservation performance at KWS, while 38.8% was attributable to other factors not included in the model. The small difference between R^2 and adjusted R^2 indicates a relatively stable model.

When institutional capacity was introduced in Model 2, R increased to .817 and R^2 to .667, representing a statistically significant 5.5 percentage-point increase in explained variance (ΔR^2 = .055, F-change = 47.680, p < .001). Thus, institutional capacity added meaningful explanatory power beyond strategic leadership capabilities. In Model 3, introduction of the interaction terms increased R^2 further to .688 and adjusted R^2 to .675. The additional 2.1% variance explained was statistically significant (ΔR^2 = .021, F-change = 3.703, p = .003), indicating that, taken collectively, the interaction terms contributed significantly to explaining conservation performance.

Table 11: Model Summary for the Joint (Combined) Regression Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.782[a]	.612	.605	.36104	.612	90.808	5	288	.000
2	.817[b]	.667	.660	.33492	.055	47.680	1	287	.000
3	.829[c]	.688	.675	.32730	.021	3.703	5	282	.003

a. Predictors: (Constant), X1, X2, X3, X4, X5

b. Predictors: (Constant), X1, X2, X3, X4, X5, M

c. Predictors: (Constant), X1, X2, X3, X4, X5, M, X1M, X2M, X3M, X4M, X5M

Table 12: ANOVA for the Joint (Combined) Regression Model

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.184	5	11.837	90.808	.000[b]
	Residual	37.541	288	.130		
	Total	96.725	293			
2	Regression	64.532	6	10.755	95.885	.000[c]
	Residual	32.193	287	.112		
	Total	96.725	293			
3	Regression	66.516	11	6.047	56.447	.000[d]
	Residual	30.209	282	.107		
	Total	96.725	293			

a. Dependent Variable: Y (Conservation Performance)

b. Predictors: (Constant), X1, X2, X3, X4, X5

c. Predictors: (Constant), X1, X2, X3, X4, X5, M

d. Predictors: (Constant), X1, X2, X3, X4, X5, M, X1M, X2M, X3M, X4M, X5M

The ANOVA results confirm that all three regression models were statistically significant. Model 1 yielded F(5, 288) = 90.808, p < .001, demonstrating that the five strategic leadership capabilities collectively provided a statistically significant prediction of conservation performance. After institutional capacity was added, Model 2 remained highly significant, F(6, 287) = 95.885, p < .001. The final interaction model was also significant, F(11, 282) = 56.447, p < .001.

These results demonstrate that the joint contribution of strategic leadership capabilities and institutional capacity explains conservation performance substantially better than would be expected by chance. The reduction in residual sum of squares from 37.541 in Model 1 to 30.209 in Model 3 further indicates improved explanatory capacity as institutional capacity and interaction effects were incorporated. Therefore, the overall joint regression framework provides a statistically valid explanation of variation in conservation performance at KWS.

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Table 13: Joint (Combined) Regression Coefficient Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.612	.182		3.368	.001
	X1	.101	.046	.107	2.183	.030
	X2	-.040	.055	-.047	-.731	.465
	X3	.188	.058	.226	3.240	.001
	X4	.372	.054	.361	6.957	.000
	X5	.256	.057	.264	4.462	.000
2	(Constant)	.473	.170		2.788	.006
	X1	.108	.043	.116	2.536	.012
	X2	-.132	.053	-.156	-2.521	.012
	X3	.173	.054	.208	3.219	.001
	X4	.376	.050	.364	7.565	.000
	X5	.100	.058	.103	1.733	.084
	M	.296	.043	.346	6.905	.000
3	(Constant)	-.762	.603		-1.264	.207
	X1	.547	.230	.584	2.375	.018
	X2	.474	.270	.558	1.758	.080
	X3	.408	.302	.490	1.351	.178
	X4	.407	.281	.394	1.447	.149
	X5	-.839	.291	-.865	-2.879	.004
	M	.598	.175	.700	3.408	.001
	X1M	-.115	.059	-.864	-1.938	.054
	X2M	-.156	.076	-1.220	-2.040	.042
	X3M	-.066	.090	-.527	-.731	.466
	X4M	-.021	.081	-.154	-.262	.794
	X5M	.267	.082	2.061	3.276	.001

a. Dependent Variable: Y

The coefficient results provide greater insight into the relative contribution of individual predictors. In Model 1, strategic vision (B = .101, p = .030), environmental scanning and foresight (B = .188, p = .001), stakeholder engagement and collaboration (B = .372, p < .001), and organizational adaptability (B = .256, p < .001) were positive and statistically significant predictors. Strategic resource allocation was negative but statistically insignificant (B = −.040, p = .465). Stakeholder engagement and collaboration had the largest standardized contribution in this model (β = .361).

When institutional capacity was introduced in Model 2, it emerged as a strong positive and statistically significant predictor (B = .296, β = .346, p < .001). Strategic vision (p = .012), environmental scanning and foresight (p = .001), and stakeholder engagement and collaboration (p < .001) remained significant. Organizational adaptability, however, became statistically insignificant (p = .084), while strategic resource allocation became significantly negative (B = −.132, p = .012).

In the final interaction model, institutional capacity remained significant (B = .598, p = .001). Of the interaction terms, strategic resource allocation × institutional capacity was significant (B = −.156, p = .042) and organizational adaptability × institutional capacity was significant and positive (B = .267, p = .001). However, the interactions involving strategic vision (p = .054), environmental scanning and foresight (p = .466), and stakeholder engagement and collaboration (p = .794) were not statistically significant at the 5% level.

The findings demonstrate that strategic leadership capabilities jointly have substantial explanatory power for conservation performance at KWS, accounting for 61.2% of its variation. Institutional capacity increases this explanatory power to 66.7%, while incorporating interaction effects raises it further to 68.8%. This provides evidence that institutional capacity matters both directly and, collectively, as a moderating condition.

The overall **regression** models became:

Model 1: Direct Effects Model

$Y = 0.612 + 0.101X_1 - 0.04X_2 + 0.188X_3 + 0.372X_4 + 0.256X_5$

Model 2: Moderation Model

$Y = 0.473 + 0.108X_1 - 0.132X_2 + 0.173X_3 + 0.376X_4 + 0.1X_5 + 0.296M$

Model 3: Interaction Model

$Y = -0.762 + 0.547X_1 + 0.474X_2 + 0.408X_3 + 0.407X_4 - 0.839X_5 + 0.598M - 0.115\ X_1M - 0.156\ X_2M - 0.066X_3M - 0.021X_4M + 0.267X_5M$

Where:

Y represented Conservation Performance;

X_1 Strategic Vision; X_2 Strategic Resource Allocation; X_3 Environmental Scanning and Foresight; X_4 Stakeholder Engagement and Collaboration; X_5 Organizational Adaptability;

M Institutional Capacity (moderator);

β_0 the constant term;

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β_1–β_5 = Regression coefficients of independent variables,
β_M = Regression coefficient of moderator (Institutional Capacity)
βi_M = Coefficient of interaction term, e = Error term, XiM = Interaction/Product term

Interpretation of Findings

The findings demonstrate that strategic leadership capabilities are important determinants of conservation performance at Kenya Wildlife Service (KWS). Specifically, strategic vision, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability positively and significantly influenced conservation performance. This indicates that KWS is better positioned to achieve desirable conservation outcomes when its leadership provides clear strategic direction, anticipates emerging environmental challenges, maintains effective stakeholder relationships, and adapts organizational practices to changing conservation conditions. Strategic resource allocation, however, did not demonstrate a statistically significant direct influence on conservation performance, suggesting that resource allocation alone may not necessarily translate into improved conservation outcomes without appropriate institutional support and effective utilization.

Among the strategic leadership capabilities, stakeholder engagement and collaboration emerged as particularly important in enhancing conservation performance. This finding emphasizes the value of partnerships with local communities, government agencies, non-governmental organizations, development partners, and other conservation stakeholders. Effective collaboration facilitates community participation, institutional coordination, information sharing, resource mobilization, and collective responses to conservation challenges. Environmental scanning and foresight was also important, demonstrating that continuously monitoring ecological, climatic, technological, and operational developments enables KWS to anticipate emerging threats and make informed conservation decisions. Strategic vision similarly contributes by providing long-term direction and aligning conservation activities with institutional objectives.

The findings further established that institutional capacity is important in enhancing conservation performance. The availability of financial resources, competent personnel, appropriate technology, adequate infrastructure, supportive policies, and effective inter-agency coordination provides the institutional foundation required to translate strategic leadership initiatives into conservation outcomes. Institutional capacity therefore complements strategic leadership by providing the resources and organizational conditions necessary for effective implementation of conservation strategies. This suggests that strong leadership capabilities may be insufficient where the institutional environment lacks the capacity required to support their implementation.

The moderation analysis further revealed that institutional capacity collectively plays a significant moderating role in the relationship between strategic leadership capabilities and conservation performance. However, this moderating influence was not uniform across all dimensions of strategic leadership capabilities. Institutional capacity significantly moderated the relationships between strategic resource allocation and conservation performance and between organizational adaptability and conservation performance. In contrast, its moderating effects on the relationships involving strategic vision, environmental scanning and foresight, and stakeholder engagement and collaboration were not statistically significant. These findings indicate that the contribution of institutional capacity depends on the particular strategic leadership capability under consideration.

Overall, the findings suggest that conservation performance at KWS depends on the combined contribution of effective strategic leadership capabilities and supportive institutional capacity. Strategic vision, environmental foresight, stakeholder collaboration, and organizational adaptability directly contribute to conservation performance, while institutional capacity provides an enabling environment and selectively strengthens or alters some of these relationships. Consequently, KWS should pursue an integrated approach that simultaneously strengthens strategic leadership capabilities and institutional capacity to enhance wildlife protection, reduce poaching, preserve biodiversity, promote ecosystem sustainability, strengthen community participation, and improve the management of human-wildlife conflicts.

Practical Implications

The findings have important practical implications for Kenya Wildlife Service (KWS) and other conservation institutions. Management should strengthen strategic leadership capabilities by ensuring clear strategic direction, effective allocation of conservation resources, continuous environmental scanning, meaningful stakeholder engagement, and organizational adaptability. The joint model demonstrated that these capabilities substantially explain conservation performance, while institutional capacity provides additional explanatory power. KWS should therefore strengthen financial capacity, staff competencies, technological systems, infrastructure, policy support, and inter-agency coordination. Particular attention should be given to stakeholder collaboration, environmental foresight, and strategic vision because they demonstrated important contributions to conservation performance. Strengthening leadership capabilities alongside institutional resources should improve wildlife protection, biodiversity preservation, ecosystem sustainability, community participation, and human-wildlife conflict management.

Theoretical Implications

The findings provide empirical support for the study's integration of Strategic Leadership Theory, Resource-Based View, Dynamic Capabilities Theory, and Stakeholder Theory. Strategic Leadership Theory is supported by evidence that strategic leadership capabilities collectively explain substantial variation in conservation performance. The contribution of institutional capacity supports the Resource-Based View proposition that organizational outcomes depend on the availability and effective utilization of institutional resources. The importance of environmental scanning and organizational adaptability provides relevance to Dynamic Capabilities Theory, which emphasizes sensing and responding to environmental changes. Similarly, the contribution of stakeholder engagement and collaboration reinforces Stakeholder Theory's proposition that organizational effectiveness depends on relationships with critical stakeholders. Overall, the findings demonstrate that conservation performance is better explained by integrating leadership, resources, adaptability, and stakeholder perspectives rather than applying a single theoretical perspective.

Limitations of the Descriptive Analysis

The descriptive analysis provides useful information regarding respondents' perceptions of strategic leadership capabilities, institutional capacity, and conservation performance but has several limitations. First, means, standard deviations, frequencies, and percentages describe patterns but cannot establish causal relationships among the study variables. Second, the analysis relied on self-reported questionnaire responses and may therefore have been affected by social desirability, recall, and perceptual biases. Third, the cross-sectional design captured respondents' perceptions

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at one point in time and could not establish changes in leadership capabilities or conservation performance over time. Finally, aggregate descriptive statistics may conceal variations across management levels, functional departments, conservation areas, and employee categories. Consequently, inferential analyses were necessary to establish statistically significant relationships among the variables.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that strategic leadership capabilities are important determinants of conservation performance at Kenya Wildlife Service (KWS). Strategic vision, environmental scanning and foresight, stakeholder engagement and collaboration, and organizational adaptability positively and significantly influenced conservation performance. These findings indicate that conservation outcomes improve when KWS provides clear strategic direction, anticipates emerging environmental challenges, builds effective stakeholder relationships, and adapts its strategies and operations to changing conservation conditions. Stakeholder engagement and collaboration emerged as the strongest contributor, underscoring the importance of partnerships and collaborative approaches in conservation. Strategic resource allocation, however, did not have a statistically significant direct influence on conservation performance, suggesting that resource allocation alone may not necessarily improve conservation outcomes.

The study further established that institutional capacity is an important determinant of conservation performance. Adequate financial resources, competent personnel, technological capability, appropriate infrastructure, supportive policies, and effective inter-agency coordination provide an essential foundation for translating strategic leadership initiatives into effective conservation outcomes. Institutional capacity also had a significant collective moderating effect on the relationship between strategic leadership capabilities and conservation performance. However, this moderating effect varied across the individual dimensions. Significant moderation was observed in the relationships involving strategic resource allocation and organizational adaptability, while the moderating effects involving strategic vision, environmental scanning and foresight, and stakeholder engagement and collaboration were not statistically significant. Overall, conservation performance at KWS therefore depends on the combined contribution of effective strategic leadership and adequate institutional capacity.

Based on these findings, KWS should strengthen strategic vision by clearly articulating and consistently communicating long-term conservation priorities and ensuring that employees understand how their activities contribute to organizational objectives. Environmental scanning and foresight should also be enhanced through stronger early-warning systems, environmental intelligence, scenario planning, and continuous monitoring of ecological, climatic, technological, social, and operational developments.

KWS should further consolidate stakeholder engagement by strengthening partnerships with communities, county and national government agencies, non-governmental organizations, development partners, and other conservation actors. Stakeholder and community feedback should be systematically incorporated into conservation planning and policy decisions. Organizational adaptability should also be strengthened through policy flexibility, innovation, organizational learning, experimentation, and timely adoption of emerging conservation technologies.

Although strategic resource allocation was not directly significant, KWS should improve the prioritization, deployment, and utilization of available resources. Particular attention should be given to ranger deployment, conservation equipment, surveillance technologies, and critical conservation projects. Finally, institutional capacity should be strengthened through reliable conservation financing, staff development, improved technology and infrastructure, supportive policy frameworks, and stronger inter-agency coordination. Strategic leadership and institutional capacity interventions should be integrated to promote sustainable improvements in wildlife protection, biodiversity conservation, ecosystem sustainability, community participation, and human-wildlife conflict management.

Future Research Directions

Future research should extend the present study in several directions. First, longitudinal studies should be undertaken to determine how changes in strategic leadership capabilities and institutional capacity influence conservation performance over time, thereby overcoming the limitations associated with the study's cross-sectional design. Second, similar studies should be replicated in other wildlife conservation institutions, protected areas, county-level conservation agencies, and environmental organizations to establish whether the findings can be generalized beyond KWS. Comparative studies involving conservation institutions across East Africa could further provide valuable contextual insights.

Future studies could also adopt mixed-method approaches, integrating quantitative analysis with interviews, focus groups, and case studies to provide deeper explanations of how leadership and institutional conditions influence conservation outcomes. Researchers should additionally investigate other potential moderating or mediating variables, including organizational culture, employee commitment, technological innovation, environmental uncertainty, and government policy. Finally, future research could examine specific conservation outcomes independently to establish whether strategic leadership capabilities affect wildlife protection, biodiversity preservation, ecosystem sustainability, and human-wildlife conflict management differently.

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Data Availability Statement: The data supporting the findings of this study may be obtained from the corresponding author upon reasonable request, subject to applicable confidentiality requirements.
Research Ethics: Ethical approval for the study was obtained from the relevant Ethics Review Committee of Taita Taveta University. Participation in the study was voluntary, and informed consent was obtained from all participants prior to data collection. Participants' confidentiality and anonymity were maintained throughout the research process.

RECOGNITIONS OF THE AUTHOR CONTRIBUTION

Kenneth Ouma Ochieng - Conceptualization, methodology, data collection, data analysis, writing.
Patrick Mutua Kimaku - Supervision, refining methodology, reviewing and editing.
Fredrick Lala - Supervision, validation, editing and reviewing.

DATA AVAILABILITY

The complete dataset generated and analyzed during this study is not publicly accessible due to confidentiality and ethical considerations. However, anonymized data and relevant supporting materials may be made available by the corresponding author upon reasonable request, provided that such disclosure complies with the ethical and confidentiality requirements governing the study.

REFERENCES

1) African Wildlife Foundation. (2023). *Annual report 2023*. African Wildlife Foundation.
2) Appleton, M. R., Barborak, J. R., Daltry, J. C., Long, B., O'Connell, M., Owen, N. R., Singh, R., Sparkes, E., Sterling, E. J., & Valencia, L. M. (2022). How should conservation be professionalized? *Oryx, 56*(5), 654–663. https://doi.org/10.1017/S0030605321000594
3) Appleton, M. R., Barborak, J. R., Daltry, J. C., Long, B., O'Connell, M., Owen, N. R., Singh, R., Sparkes, E., Sterling, E. J., & Valencia, L. M. (2022). How should conservation be professionalized? *Oryx, 56*(5), 654–663. https://doi.org/10.1017/S0030605321000594
4) Ashkevari, S. B., & Ghasemi, B. (2023). The impact of strategic leadership on organizational performance with regard to the role of organizational innovation. *Journal of Organizational Behavior Research, 8*(2), 40–53. https://doi.org/10.51847/vSDdNm6S8t
5) Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108
6) Chang'alwa, M. V., & Kimaku, P. (2022). Corporate level strategy and performance of coffee industry in Nairobi Metropolitan, Kenya. *International Journal of Social Sciences Management and Entrepreneurship, 6*(1), 288–299.
7) Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
8) Ezeh, M. O., Ogbu, A. D., Ikevuje, A. H., & George, E. P.-E. (2024). Stakeholder engagement and influence: Strategies for successful energy projects. *International Journal of Management & Entrepreneurship Research, 6*(7), 2375–2395. https://doi.org/10.51594/ijmer.v6i7.1330
9) Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
10) Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.
11) Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). The Guilford Press.
12) Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2007). *Strategic management: Competitiveness and globalization: Concepts* (7th ed.). Thomson/South-Western.
13) Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2020). *Strategic management: Competitiveness and globalization: Concepts and cases* (13th ed.). Cengage Learning.
14) Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. (2023). *Thematic assessment report on invasive alien species and their control*. IPBES.
15) Kenya Wildlife Service. (2023). *Annual report and financial statements 2022/2023*. Kenya Wildlife Service.
16) Kimaku, P. M., Omwenga, J., & Nzulwa, J. D. (2019). Determinants of successful implementation of strategic change in state corporations in Kenya. *The Strategic Journal of Business & Change Management, 6*(2), 82–95. https://doi.org/10.61426/sjbcm.v6i2.1101
17) Majani, L. V., Kimaku, P. M., & Omido, K. H. (2026). Managing resistance to change and its effect on performance of state corporations within Nairobi Metropolitan Area, Kenya. *International Journal of Research and Innovation in Social Science, 10*(3), 4640–4659. https://doi.org/10.47772/IJRISS.2026.100300344
18) Ministry of Tourism and Wildlife. (2024). *Annual report 2023/2024*. Government of Kenya.
19) Mwachia, J. K., Kimaku, P. M., & Makungu, T. (2023). Influence of organizational agility dimensions on performance of hotel industry in Kenyan Coast counties. *International Journal of Social Sciences Management and Entrepreneurship, 7*(1), 172–187.
20) Northouse, P. G. (2022). *Leadership: Theory and practice* (9th ed.). SAGE Publications.
21) Porzecanski, A. L., Sterling, E. J., Copsey, J. A., Appleton, M. R., Barborak, J. R., Bruyere, B. L., Bynum, N., Farmer, K. H., Finchum, R., Rakotobe, D., Stanoss, R. B., & Valdés-Velásquez, A. (2022). A systems framework for planning and evaluating capacity development in conservation: Recommendations for practitioners. *Oryx, 56*(5), 671–680. https://doi.org/10.1017/S003060532100154X
22) Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.
23) Seneyia, J. K., Kimaku, P. M., & Omido, K. H. (2026). Strategic change management and organizational performance of the National Government Administration Officers (NGAOs) in Kenya. *Journal of Social Science and Human Research Studies, 2*(6), 673–686. https://doi.org/10.65150/EP-jsshrs/V2E6/2026-03

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24) Taferner, S. G. (2023). Strategic foresight capability and its impact on firm performance: A systematic, AI-based literature review. *Junior Management Science, 8*(3), 658–681. https://doi.org/10.5282/jums/v8i3pp658-681
25) Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(1), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007
26) Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z
27) United Nations Development Programme. (2022). *UNDP annual report 2022*. United Nations Development Programme.
28) United Nations Environment Programme. (2023). *UNEP annual report 2023*. United Nations Environment Programme.
29) World Bank. (2024). *The World Bank annual report 2024*. World Bank.
30) Yahia-Marzouk, Y., & Jin, J. (2022). Linking environmental scanning and organizational innovation with competitive advantage: Evidence from Egyptian SMEs. *Management & Sustainability: An Arab Review, 1*(2), 170–195. https://doi.org/10.1108/MSAR-02-2022-0010
31) Yahia-Marzouk, Y., & Jin, J. (2022). The relationship between environmental scanning and organizational resilience: Roles of process innovation and environmental uncertainty. *Frontiers in Environmental Science, 10*, 966474. https://doi.org/10.3389/fenvs.2022.966474

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