

EFFECT OF CAPACITY-BUILDING PRACTICES ON ORGANIZATIONAL PERFORMANCE OF KTDA MANAGED TEA FACTORIES IN NYAMIRA AND KISII

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ABSTRACT

The performance of Kenya Tea Development Agency (KTDA)-managed factories has increasingly come under scrutiny due to operational inefficiencies, workforce heterogeneity, and evolving market dynamics. These challenges call for strategic approaches that leverage cognitive diversity to drive innovation and sustainable competitiveness. This study's main objective was to establish the effect of capacity-building practices on organizational performance of KTDA tea factories. The study was anchored on Dynamic Capabilities Theory. The study was guided by the positivist research philosophy. A descriptive research design was employed, targeting 858 employees (managers, supervisors, and operational staff) across KTDA factories in Nyamira and Kisii Counties. Using Taro Yamane's (1967) formula, a sample size of 390 respondents was selected. Primary data was collected using structured questionnaires. Content validity was assessed using the Content Validity Index, while construct validity was confirmed through pilot testing at Mogogosiek Tea Factory in Bomet County and through exploratory factor analysis. Reliability was established using

Cronbach's alpha coefficient. Data analysis was conducted by help of SPSS, applying descriptive statistics (means and standard deviations). Correlation analysis was conducted using Pearson's product-moment coefficient. The study used simple linear regression to test the direct effects. The findings indicated that capacity building practices had a positive and significant relationship with organizational performance in KTDA-managed tea factories. The study concludes that capacity-building practices have a significant positive effect on organizational performance in tea factories. The study recommends that Organizations should invest more in capacity building practices, including continuous training, mentorship, job rotation, benchmarking, and knowledge-sharing systems. Such investments are likely to improve teamwork, innovation, operational efficiency, and product quality, especially when managers actively support learning transfer and staff development.

Keywords: Capacity-building Practices, Organizational Performance.

INTRODUCTION

Background of the Study

Globally, evidence indicates that diversity-oriented and interdisciplinary training enhances employee creativity, problem-solving, innovation, and overall productivity, as shown in multinational and high-tech firms where structured learning initiatives significantly improved absorptive capacity and operational outcomes (Alshammari, 2023; Liu & Fang, 2022; Jackson et al., 2021).

African studies reveal similar trends: diversity-sensitivity training reduces intergroup conflict and boosts team cohesion, while mentoring systems, peer-learning structures, and continuous learning cultures enhance productivity, process innovation, and adaptive capacity- effects that are further strengthened when supportive managerial behaviour is present (Oladipo & Adeyemi, 2023; Adekunle & Osei, 2023; Mensah, 2022).

In the Kenyan tea sector, capacity-building initiatives such as training in modern processing technologies, inter-factory knowledge exchange, and cross-functional job rotation have been found to improve operational efficiency, problem-solving ability, teamwork, and product quality, with managerial engagement enhancing the overall effectiveness of these practices (Korir & Ochieng, 2022; Waweru & Ndiritu, 2024; Otieno & Gichuki, 2024). Collectively, these studies affirm that well-designed capacity-building practices are essential for leveraging diverse cognitive perspectives and driving sustained organizational performance improvements.

Performance of Tea Factories

Global Overview

The global tea sector has demonstrated notable resilience following the disruptions caused by the COVID-19 pandemic between 2020 and 2021; however, the recovery has been uneven across producing countries and processing firms. Global tea output increased in 2022 compared to 2021, largely driven by higher green-tea production that compensated for declines in black-tea output in certain regions, while global consumption showed only modest improvement (FAO, 2024). Despite this recovery in aggregate production, substantial regional disparities persist in yields, prices, and factory-level performance. These variations are largely attributed to climatic shocks, supply-chain disruptions, and evolving demand patterns in key importing markets (FAO, 2024; Tridge, 2024).

A central factor shaping factory performance globally is price volatility coupled with shifting product compositions. In the post-pandemic period, demand has strengthened for certain tea categories, particularly specialty and premium teas, while bulk tea prices have remained highly volatile. These fluctuations are often driven by supply constraints in major producing countries, such as Sri Lanka, as well as production declines in India in 2024, which tightened global supply and exerted upward pressure on prices (Tridge, 2024). For tea processing factories, such macroeconomic price movements directly influence factory gate prices, profit margins, and working capital requirements. Smaller and less diversified factories are particularly vulnerable

to these fluctuations, as they lack the capacity to absorb market shocks compared to larger, more integrated processing firms (Tridge, 2024).

At the operational level, empirical and industry evidence consistently identifies three key drivers of factory performance: adoption of processing technology and maintenance systems, efficiency of farm-to-factory supply chains, and the effectiveness of market and product strategies. Cross-country studies show that factories investing in automation, quality control systems, and efficient logistics achieve higher throughput levels and reduced waste, thereby improving profitability under favorable market conditions (IISD, 2024; Tea & Coffee Report, 2024). However, technological advancement is not without trade-offs; while mechanization reduces unit production costs, it may also displace labour and necessitate new managerial and technical capabilities to fully realize productivity gains (IISD, 2024).

In addition to operational and technological considerations, sustainability and certification requirements have emerged as significant determinants of factory performance. Compliance with voluntary standards such as Rainforest Alliance and Fairtrade has been associated with improved environmental and social practices, as well as access to premium markets. Nevertheless, the financial benefits of certification are not always immediate or guaranteed, particularly for smallholder-linked factories where compliance costs can be substantial. As a result, factories are often required to balance the long-term advantages of certification against short-term financial pressures, a trade-off that has influenced strategic decision-making and sparked policy debates on the need for context-specific certification frameworks (IISD, 2024; Tea & Coffee Report, 2024).

Climate change and weather variability further compound these challenges, emerging as critical structural risks affecting global tea production and factory performance. Extreme weather conditions, including heat waves, erratic rainfall, and prolonged droughts, have adversely affected yields and compromised the quality of green leaf supplied to factories. This, in turn, increases processing costs per unit of output and places additional pressure on factory profitability (FAO, 2024; Tridge, 2024). Evidence from recent studies (2020–2024) indicates that climatic shocks not only result in short-term production losses but also necessitate long-term capital investments in adaptive infrastructure, thereby increasing financial strain on factories and potentially undermining their resilience (FAO, 2024).

While these technical, environmental, and market-related factors are critical, emerging empirical evidence suggests that they explain only part of the variation in factory performance. Recent factory-level studies, though limited in number, indicate that improvements in efficiency through cost-reduction strategies, process reengineering, and supply-chain coordination yield inconsistent results across contexts. This has shifted attention toward organizational and managerial determinants of performance, including leadership quality, human resource capacity, and governance structures (Research Gate study, 2025; IISD, 2024). These factors are increasingly recognized as essential complements to technical and market strategies, influencing how effectively resources are utilized and how performance gains are sustained over time.

Taken together, global evidence from 2020 to 2025 suggests that although the tea sector has largely recovered in terms of production volumes, it continues to face persistent risks related to price volatility and climate variability. Factory-level performance remains uneven and is contingent upon a combination of technological adoption, supply-chain efficiency, and market positioning. More importantly, organizational and managerial capabilities- including leadership, knowledge integration, and the management of cognitive diversity within the workforce- are emerging as critical yet underexplored determinants of sustained performance. These insights underscore the need to examine internal organizational mechanisms that influence how resources are leveraged, thereby motivating the present study's focus on capacity building practices as key drivers of performance variation in KTDA-managed tea factories (IISD, 2024; Tridge, 2024).

Performance of Tea Factories in Kenya

Tea remains one of Kenya's most significant agricultural exports and a critical source of rural employment across many counties. Following the disruptions experienced between 2019 and 2021 due to global market fluctuations and the COVID-19 pandemic, the sector has demonstrated a notable recovery. National performance reports indicate that marketed export volumes increased substantially from approximately 450 million kilograms in 2022 to about 523 million kilograms in 2023, generating record export earnings of approximately Kshs 180.6 billion. This positive trajectory continued into 2024, with further increases in both export volumes and earnings (Tea Board of Kenya, 2024a; Tea Board of Kenya, 2024b). Although seasonal variability and weather conditions continue to influence production patterns, the overall trend between 2022 and 2025 reflects recovery and sustained growth compared to the immediate post-pandemic period (Tea Board of Kenya, 2022; Tea Board of Kenya, 2024a).

Despite these encouraging national-level improvements, performance at the factory level remains uneven. Aggregate recovery figures tend to obscure substantial heterogeneity in outcomes across tea factories. Empirical studies consistently demonstrate that variations in factory performance are largely explained by differences in management practices, supply-chain effectiveness, and technological adoption (Ayuma, 2024; Gikunju, Gakure, & Orwa, 2022). For instance, evidence from KTDA-managed factories and other processing firms shows that investments in process automation, improved maintenance systems, and stronger linkages with smallholder farmers contribute to enhanced throughput, reduced waste, and improved profitability (Dorothy, Langat, & Bett, 2022; Gikunju et al., 2022; Mwangi, 2024). These findings suggest that national production gains are dependent on the extent to which factories adopt effective firm-level practices that enhance operational efficiency and responsiveness to market demands.

Among these determinants, supply-chain management emerges as a critical factor influencing factory performance. Studies conducted in the North Rift Valley and other tea-producing regions indicate that coordination between factories and farmers- particularly in relation to timely leaf delivery, quality control, and logistics management- has a direct impact on both the quantity and quality of processed tea reaching auction markets (Ayuma, 2024). Inefficiencies

in supply-chain systems often result in increased handling losses, lower factory gate prices, and reduced competitiveness, even in contexts where overall national production is increasing. In addition to supply-chain dynamics, market and product strategies play a significant role in shaping factory performance. Empirical studies focusing on KTDA factories reveal that proactive approaches such as product innovation, market diversification, branding, and value addition are positively associated with improved financial outcomes (Dorothy et al., 2022; Motongwa, 2024). Factories that effectively integrate production improvements with strategic market positioning tend to achieve higher margins and demonstrate greater resilience to fluctuations in auction prices.

However, these performance improvements are constrained by a range of structural and institutional challenges. Existing literature highlights persistent issues such as volatility in global tea prices, rising input costs, climate-induced variability in production, labour-related challenges, and the increasing burden of certification and compliance requirements, including standards such as Rainforest Alliance (Tea Board of Kenya, 2024b; The Guardian, 2025). Furthermore, concerns regarding governance and financial sustainability in some smallholder-linked factories continue to affect operational stability. Tensions in value distribution across the tea value chain- particularly between farmers, processors, and traders- also contribute to inconsistencies in leaf supply and quality, thereby indirectly affecting factory performance (KIPPRA, 2025).

Beyond these structural factors, a growing body of research emphasizes the importance of organizational and managerial dimensions in explaining factory-level outcomes. Studies in the Kenyan context show that investments in workforce training, particularly in areas such as maintenance and quality control, alongside effective communication with smallholder farmers and strong managerial competencies, are associated with improved operational performance (Otieno, 2023; Mwangi, 2024). Nevertheless, much of this literature treats human resource practices and leadership as direct determinants of performance, without sufficiently examining how they interact with technical and strategic interventions. This suggests that the effectiveness of technology adoption and market strategies may be contingent upon the quality of leadership and managerial capacity within factories- an area that remains underexplored in the Kenyan tea sector (Ayuma, 2024; Mutiso, 2024).

Overall, the performance trajectory of tea factories in Kenya presents a mixed but cautiously optimistic picture. While national-level indicators point to recovery and growth in export volumes and earnings, factory-level outcomes remain uneven and are influenced by a complex interplay of supply-chain efficiency, technological capability, market strategy, and managerial effectiveness (Ayuma, 2024; Dorothy et al., 2022; Gikunju et al., 2022; Mwangi, 2024). This heterogeneity underscores the need to move beyond purely technical explanations of performance and to consider the organizational conditions under which such strategies are implemented and sustained.

This need is particularly evident in KTDA-managed factories in Nyamira and Kisii Counties, where performance challenges are more pronounced. Evidence from parliamentary reports and

regional market analyses indicates that factories located west of the Rift Valley- including Sanganyi, Nyankoba, Kebirigo, Tombe, Ogembo, and Gianchore- consistently record lower bonus payments, reduced production efficiency, and weaker auction price performance compared to their counterparts east of the Rift Valley (Parliament of Kenya, 2025; Tea Board of Kenya, 2024b). These disparities have been linked to persistent operational inefficiencies, weak supply-chain coordination, and managerial limitations that hinder the effective conversion of green leaf into high-quality black tea (Ayuma, 2024; Gikunju et al., 2022).

Specifically, factories in these regions experience higher leaf rejection rates, fluctuating throughput levels, and elevated operational costs associated with logistics and energy consumption (KIPPRA, 2025; Mwangi, 2024). In addition, governance challenges and farmer dissatisfaction- often driven by lower earnings- have contributed to inconsistencies in leaf supply, thereby reinforcing a cycle of declining quality and performance (Mutiso, 2024). These persistent challenges highlight the limitations of existing approaches and underscore the need to examine how internal organizational factors, particularly capacity building practices embedded within managerial practices, influence decision-making and performance outcomes in KTDA-managed factories.

Statement of the Problem

In an ideal scenario, Kenya Tea Development Agency (KTDA)-managed tea factories would achieve superior organizational performance through the effective implementation of capacity building practices. These practices- including training and development, cross-functional exposure, benchmarking, and knowledge-sharing platforms- are expected to equip employees with adaptive, innovative, and problem-solving capabilities necessary to enhance operational efficiency and competitiveness. When strategically implemented, capacity building enables organizations to continuously upgrade workforce competencies, improve process efficiency, and respond effectively to dynamic market and production conditions.

However, the current performance of KTDA-managed tea factories presents a contrasting reality. Despite significant investments in human capital, many factories continue to experience stagnating performance, inconsistent product quality, and limited innovation (TBK, 2024a). Empirical evidence indicates that smallholder tea productivity under KTDA management declined by 8.7% between 2018 and 2022 (TBK, 2024b). In addition, factory throughput efficiency averages approximately 65% compared to an industry benchmark of 80% of installed capacity, resulting in elevated unit production costs (MOA Tea Sector Performance Highlights, 2024). Further, KTDA (2024) reports that although more than 71 factories operate under its management, substantial disparities persist in output levels, efficiency, and overall performance.

A closer examination of key performance indicators reveals persistent weaknesses across multiple dimensions. Factories continue to experience suboptimal green leaf volumes, below-target throughput levels, inconsistent conversion ratios of green leaf to made tea, and relatively low prices per kilogram of tea sold, KTDA (2024). In addition, variability in sales volumes, limited growth in market share, inconsistent achievement of price awards and recognitions, and

fluctuations in farmer retention and recruitment indicate broader challenges in both operational and market performance. Although compliance with regulatory requirements remains relatively strong, these performance gaps suggest that existing organizational capabilities are insufficient to sustain competitive advantage.

These challenges raise critical concerns regarding the effectiveness of current capacity building practices within KTDA-managed factories. While training programs and skill development initiatives exist, they are often limited in depth, insufficiently aligned with strategic objectives, and inadequately integrated with other organizational systems. Furthermore, limited cross-functional exposure, weak benchmarking practices, and underdeveloped knowledge-sharing platforms constrain learning, innovation, and the effective utilization of employee capabilities. As a result, the potential benefits of capacity building in enhancing adaptability, efficiency, and performance remain largely underexploited.

Although previous studies (e.g., Alshammari, 2023; Liu & Fang, 2022) in the tea sector have emphasized agronomic practices, production efficiency, and market dynamics, there is limited empirical evidence on how capacity building practices influence organizational performance at the factory level, particularly within KTDA-managed factories. This gap is more pronounced in Nyamira and Kisii counties, where factories operate under similar structural conditions yet continue to exhibit significant performance disparities.

It is against this background that the present study seeks to examine the effect of capacity building practices on organizational performance of KTDA-managed tea factories in Nyamira and Kisii counties. By focusing on training and development, cross-functional exposure, benchmarking practices, and knowledge-sharing platforms, the study aims to provide empirical evidence on how capacity building can be strategically leveraged to improve productivity, efficiency, quality, and market performance in the tea processing sector.

Specific Objective

- i. To examine the effect of capacity building practices on organizational performance of KTDA managed tea factories in Nyamira & Kisii counties, Kenya.

Research Hypothesis

H₀₁: Capacity building practices do not have statistically significant effect on organizational performance of KTDA managed tea factories in Nyamira & Kisii.

Justification of The Study

The Kenyan tea industry remains a critical pillar of national economic growth and rural livelihoods, with thousands of smallholder farmers directly dependent on the performance of KTDA-managed tea factories. Despite its strategic importance, the sector continues to face persistent challenges, including fluctuating productivity, inconsistent product quality, operational inefficiencies, and increasing global competition. These challenges are further compounded by climate variability, evolving market preferences, and rapid technological

advancements, all of which require tea factories to adopt more adaptive, innovative, and strategically responsive management approaches.

While significant attention has been given to improving agronomic practices, production systems, and market strategies, comparatively less emphasis has been placed on the role of internal organizational capabilities- particularly capacity building- in driving factory-level performance. Yet, the ability of tea factories to improve key performance indicators such as green leaf volumes, throughput efficiency, conversion ratios, price per kilogram of tea sold, market share, and farmer retention is inherently dependent on the skills, knowledge, and adaptive capabilities of their workforce. This suggests that sustainable improvements in performance require deliberate investment in structured capacity building practices that enhance employee competence, learning, and innovation.

Capacity building practices- operationalized by training and development, cross-functional exposure, benchmarking, and knowledge-sharing platforms- provide a strategic mechanism for strengthening workforce capabilities and improving organizational effectiveness. Training and development enhance technical and operational skills necessary for improving processing efficiency and product quality. Cross-functional exposure promotes flexibility, coordination, and problem-solving across departments, thereby improving workflow efficiency and throughput. Benchmarking practices enable factories to learn from best-performing organizations, adopt innovative practices, and improve competitiveness. Knowledge-sharing platforms facilitate continuous learning, dissemination of best practices, and integration of diverse expertise, which are essential for innovation and adaptability. When effectively implemented, these practices are expected to translate into improved operational, financial, and market performance outcomes.

However, evidence from KTDA-managed factories indicates that these capacity building practices are not being optimally leveraged. Persistent performance gaps- manifested in suboptimal productivity, inefficiencies in throughput, inconsistent quality, and weak market outcomes- suggest that existing approaches to employee development are fragmented, insufficiently aligned with strategic objectives, and inadequately integrated into organizational systems. This disconnect between capacity building efforts and performance outcomes highlights a critical need to examine how such practices can be structured and utilized more effectively to enhance organizational performance.

Furthermore, although prior studies in the tea sector have explored production efficiency, supply-chain management, and market dynamics, there is limited empirical evidence linking capacity building practices to organizational performance at the factory level. This gap is particularly evident in Nyamira and Kisii counties, where KTDA-managed factories continue to exhibit persistent disparities in bonuses, cost structures, and operational efficiency despite operating under similar environmental and institutional conditions. The absence of context-specific empirical studies focusing on these regions limits the ability of managers and policymakers to design targeted interventions for performance improvement.

This study is therefore justified by the need to provide a comprehensive and empirically grounded understanding of how capacity building practices influence organizational performance in KTDA-managed tea factories. By integrating training and development, cross-functional exposure, benchmarking, and knowledge-sharing platforms into a unified analytical framework, the study offers a multidimensional perspective on capacity building as a strategic driver of performance. In doing so, it contributes to both theory and practice by demonstrating how internal capability development can be leveraged to improve key performance indicators, including productivity, efficiency, quality, market competitiveness, and stakeholder outcomes in the tea processing sector.

LITERATURE REVIEW

Theoretical Literature

Dynamic Capabilities Theory (DCT) emerged as an extension of the resource-based paradigm in response to the recognition that the mere possession of valuable resources is insufficient to sustain competitive advantage in dynamic and uncertain environments (David J. Teece et al., 1997). While the Resource-Based View emphasizes the strategic value of firm-specific resources, DCT advances this perspective by focusing on the firm's ability to continuously renew, reconfigure, and realign those resources in response to environmental change. Accordingly, firms that succeed in turbulent markets are not only those endowed with valuable resources, but those capable of integrating, building, and transforming internal and external competences to maintain alignment with evolving conditions (Teece et al., 1997; Zurina & Ismail, 2019).

At the core of DCT are three interrelated processes: sensing, seizing, and transforming. Sensing refers to the firm's ability to identify emerging opportunities and threats in its external environment; seizing involves mobilizing resources and adjusting organizational processes to capture these opportunities; while transforming entails the continuous renewal and reconfiguration of the firm's resource base and operational systems to sustain competitiveness over time (Teece et al., 1997; Samsudin & Ismail, 2019). These capabilities differ fundamentally from ordinary operational capabilities in that they enable purposeful adaptation, innovation, and strategic renewal rather than routine execution (Van de Wetering et al., 2021). Recent advancements in the theory have emphasized its micro-foundations, focusing on the individual, team, and organizational routines through which dynamic capabilities are enacted. This perspective addresses earlier criticisms regarding the abstract and aggregated nature of the theory by demonstrating how sensing, seizing, and transforming are operationalized through managerial decision-making, learning processes, coordination mechanisms, and organizational structures (Arndt et al., 2022; Van de Wetering et al., 2021). Empirical studies have consequently linked strong dynamic capabilities to enhanced organizational adaptability, resilience, innovation, and overall performance, particularly in environments characterized by volatility and uncertainty such as global market disruptions and climate variability (Dejardin et al., 2022; Van de Wetering et al., 2021).

Despite its theoretical contributions, DCT has attracted several criticisms. Scholars have pointed out that its core constructs- sensing, seizing, and transforming- are often difficult to operationalize and measure empirically, leading to concerns about conceptual vagueness (Arndt et al., 2022; Schreyogg & Kliesch-Eberl, 2007). Additionally, some critics argue that DCT overlaps significantly with the Resource-Based View, offering limited additional explanatory power beyond rearticulating resource-based logic in dynamic contexts (Schreyogg & Kliesch-Eberl, 2007; Van de Wetering et al., 2021). Furthermore, structural inertia, path dependency, and institutional constraints may limit an organization's ability to effectively reconfigure its resource base, thereby constraining the practical applicability of the theory in certain contexts (Van de Wetering et al., 2021; Dejardin et al., 2022).

Notwithstanding these limitations, Dynamic Capabilities Theory provides a highly relevant and robust theoretical foundation for this study. The theory explains how organizations deliberately build, adapt, and reconfigure internal competencies to achieve superior performance in dynamic environments. In the context of KTDA-managed tea factories, capacity building practices- such as training and development, cross-functional exposure, benchmarking, and knowledge-sharing platforms- represent mechanisms through which organizations develop and renew employee capabilities. These practices enhance the ability of managers and employees to sense operational inefficiencies and market opportunities, seize them through improved decision-making and resource deployment, and transform organizational processes to improve efficiency, quality, and responsiveness.

More specifically, DCT directly links capacity building practices to measurable organizational performance outcomes. Performance indicators such as green leaf volumes, throughput efficiency, conversion ratios, tea quality, price per kilogram, market share, and farmer retention depend on the organization's ability to continuously upgrade skills, integrate diverse knowledge, and adapt work systems in response to changing climatic, technological, and market conditions. Thus, capacity building practices strengthen the firm's dynamic capabilities by enhancing learning, flexibility, and innovation, which in turn drive improved operational and market performance.

Therefore, Dynamic Capabilities Theory serves as the primary theoretical lens underpinning this study by explaining how internal capability development- through structured capacity building practices- enables KTDA-managed tea factories to translate workforce competencies into sustained performance improvements. The theory not only clarifies the mechanisms through which organizational capabilities influence performance but also highlights the importance of continuous adaptation and renewal in achieving long-term competitiveness in the tea processing sector.

Empirical Literature

Capacity Building Practices And Performance

Empirical literature on capacity building practices and organizational performance has increasingly emphasized the role of training, knowledge development, and learning systems in enhancing employee capabilities and firm outcomes across diverse contexts. In developed

economies, studies have consistently demonstrated that structured training interventions significantly improve innovation, productivity, and problem-solving outcomes. For instance, Jackson et al. (2021), in their quantitative study titled *“Human Capital Investments, Cognitive Diversity, and Performance Outcomes in U.S. Firms,”* found that investment in employee training enhanced absorptive capacity, productivity, and knowledge utilization. The study further established that inclusive training approaches strengthened the ability of employees to leverage diverse perspectives, thereby improving overall firm performance. However, the study was conducted in well-resourced firms, limiting its applicability to resource-constrained manufacturing environments common in developing economies.

Similarly, in technologically advanced contexts, Liu and Fang (2022), in their study titled *“Training, Knowledge-Sharing and Performance Outcomes in Chinese High-Tech Enterprises,”* found that structured training programs promoting knowledge exchange, interdisciplinary collaboration, and technology-linked learning significantly enhanced innovation, operational efficiency, and financial performance. While these findings reinforce the importance of capacity building, the study’s focus on high-tech enterprises raises concerns regarding the transferability of such training frameworks to less technologically intensive sectors such as agro-processing industries.

At the multinational level, Alshammari (2023), in a quantitative study titled *“Cognitive Diversity-Oriented Training and Employee Innovation in Multinational Firms,”* established that diversity-oriented training significantly improved employee creativity, problem-solving capability, and innovative performance. The study highlighted the importance of leveraging varied cognitive perspectives through training interventions to enhance organizational outcomes. Nonetheless, its focus on multinational corporations operating in resource-rich environments limits its generalizability to traditional manufacturing sectors in developing regions, particularly agro-processing industries.

In emerging and developing economies, evidence similarly supports the role of capacity building in enhancing performance, though with context-specific variations. For example, Oladipo and Adeyemi (2023), in a longitudinal quantitative study titled *“Diversity-Sensitivity Training and Team Performance in Nigerian Public Organizations,”* found that training interventions reduced intergroup conflict, strengthened team cohesion, and improved performance over time. While the study demonstrates the effectiveness of capacity building in African contexts, it primarily focused on generic diversity training and did not explicitly address cognitive diversity or sector-specific skill development required in manufacturing environments.

Further evidence from agro-processing contexts is provided by Adekunle and Osei (2023), who, in their mixed-methods study titled *“Knowledge Transfer Mechanisms and Organizational Learning in West African Agro-Processing Firms,”* found that mentoring systems, digital knowledge repositories, and structured peer-learning significantly improved productivity and process innovation. However, the study also revealed that weak leadership communication constrained the effectiveness of knowledge transfer practices. Importantly, the study did not

examine the role of cognitive diversity in shaping knowledge-sharing outcomes, nor did it analyse the moderating influence of leadership on the relationship between capacity building and performance.

Within the Kenyan context, empirical studies provide more sector-specific insights into the role of capacity building in tea factories. Korir and Ochieng (2022), in a quantitative study titled “*Training, Cognitive Diversity, and Performance of Tea Factories in Kericho,*” found that training in modern processing technologies improved output efficiency, enhanced problem-solving capabilities, and strengthened teams’ ability to leverage diverse perspectives. However, the study primarily focused on operational efficiency and did not incorporate broader performance indicators such as innovation, quality performance, or employee development outcomes. Additionally, it did not examine the moderating role of leadership.

Similarly, Waweru and Ndiritu (2024), in a descriptive-correlational study titled “*Knowledge Transfer Practices and Operational Efficiency in KTDA Factories,*” found that peer-learning forums, inter-factory exchange programs, and structured knowledge-sharing sessions significantly enhanced operational efficiency and reduced quality-related errors. The study also noted that leadership involvement strengthened learning outcomes. However, it did not explicitly incorporate cognitive diversity as a factor influencing knowledge-sharing effectiveness, nor did it empirically test leadership as a moderating variable in the relationship between capacity building and performance.

Taken together, the reviewed literature demonstrates that capacity building practices—particularly training, knowledge sharing, and learning systems—are important drivers of organizational performance across different contexts. However, several critical gaps remain evident. First, most studies have been conducted in developed or high-technology environments, limiting their applicability to resource-constrained agro-processing sectors such as tea factories in developing countries. Second, existing studies in African contexts have largely focused on generic training interventions without explicitly examining cognitive diversity as a mechanism through which capacity building influences performance. Third, while some studies acknowledge the role of leadership, few have empirically examined its moderating effect on the relationship between capacity building practices and organizational performance. In addition, within the Kenyan tea sector, existing studies have primarily emphasized operational efficiency, with limited attention to broader performance indicators such as innovation, quality improvement, market competitiveness, and employee development. Furthermore, there is a lack of integrated analysis that examines multiple dimensions of capacity building—such as training and development, cross-functional exposure, benchmarking, and knowledge-sharing platforms—within a single analytical framework.

This study therefore seeks to address these gaps by examining how multidimensional capacity building practices influence organizational performance in KTDA-managed tea factories in Nyamira and Kisii counties, while incorporating cognitive diversity and leadership as critical explanatory mechanisms. Figure 1 depicts the conceptual framework for this study.

Conceptual Frame Work

The conceptual framework for this study illustrates the hypothesized relationship between capacity building practices (independent variable) and organizational performance (dependent variable) in KTDA-managed tea factories. As presented in Figure 1, the framework posits that organizational performance is a direct function of the extent to which factories implement structured and multidimensional capacity building practices.

Capacity building practices are conceptualized as a composite construct comprising four key dimensions: training and development, cross-functional exposure, benchmarking practices, and knowledge-sharing platforms. These dimensions collectively represent deliberate organizational efforts aimed at enhancing employee competencies, facilitating knowledge integration, and fostering continuous learning within the factory environment. Training and development focus on equipping employees with technical and operational skills necessary for efficient tea processing. Cross-functional exposure enables employees to gain broader organizational understanding and promotes flexibility in task execution. Benchmarking practices allow factories to learn from best-performing organizations and adopt innovative practices, while knowledge-sharing platforms facilitate the dissemination and utilization of tacit and explicit knowledge across the organization.

The dependent variable, organizational performance, is operationalized using multiple factory-level indicators that reflect both operational and market outcomes. These include green leaf volumes, throughput efficiency, conversion ratio (out-turn), price per kilogram of tea sold, compliance with regulatory requirements, sales volume, market share, price awards or recognitions, farmer retention, farmer recruitment, and consistency in meeting operational targets. These indicators provide a comprehensive measure of performance by capturing productivity, efficiency, quality, competitiveness, and stakeholder-related outcomes within KTDA-managed factories.

The framework assumes a direct and positive relationship between capacity building practices and organizational performance. It posits that when capacity building practices are effectively implemented, they enhance employee skills, improve problem-solving capabilities, and facilitate knowledge exchange, thereby enabling factories to optimize production processes, improve product quality, and respond more effectively to market and environmental changes. In this regard, capacity building serves as a critical mechanism through which organizations develop internal capabilities necessary for sustained performance improvement.

The conceptual framework is anchored on Dynamic Capabilities Theory, which emphasizes the organization's ability to continuously build, integrate, and reconfigure internal competencies to respond to dynamic environments. Within this theoretical perspective, capacity building practices represent the micro-foundations through which dynamic capabilities are developed. Specifically, training and knowledge development enhance the organization's ability to sense opportunities and inefficiencies, cross-functional exposure and benchmarking enable it to seize opportunities through improved coordination and learning,

while knowledge-sharing platforms facilitate the transformation and reconfiguration of organizational processes to achieve better performance outcomes.

Furthermore, the framework reflects the underlying assumption that organizational performance is not solely determined by external factors such as market conditions or technological investments, but also by the effectiveness of internal organizational systems that enable learning, adaptation, and innovation. By focusing on capacity building practices, the framework shifts attention to how internal human capital development contributes to performance variation among factories operating under similar structural conditions.

In summary, the conceptual framework provides a structured analytical model that links capacity building practices to organizational performance, emphasizing the role of employee capability development, knowledge integration, and continuous learning as key drivers of efficiency, quality, and competitiveness in KTDA-managed tea factories.

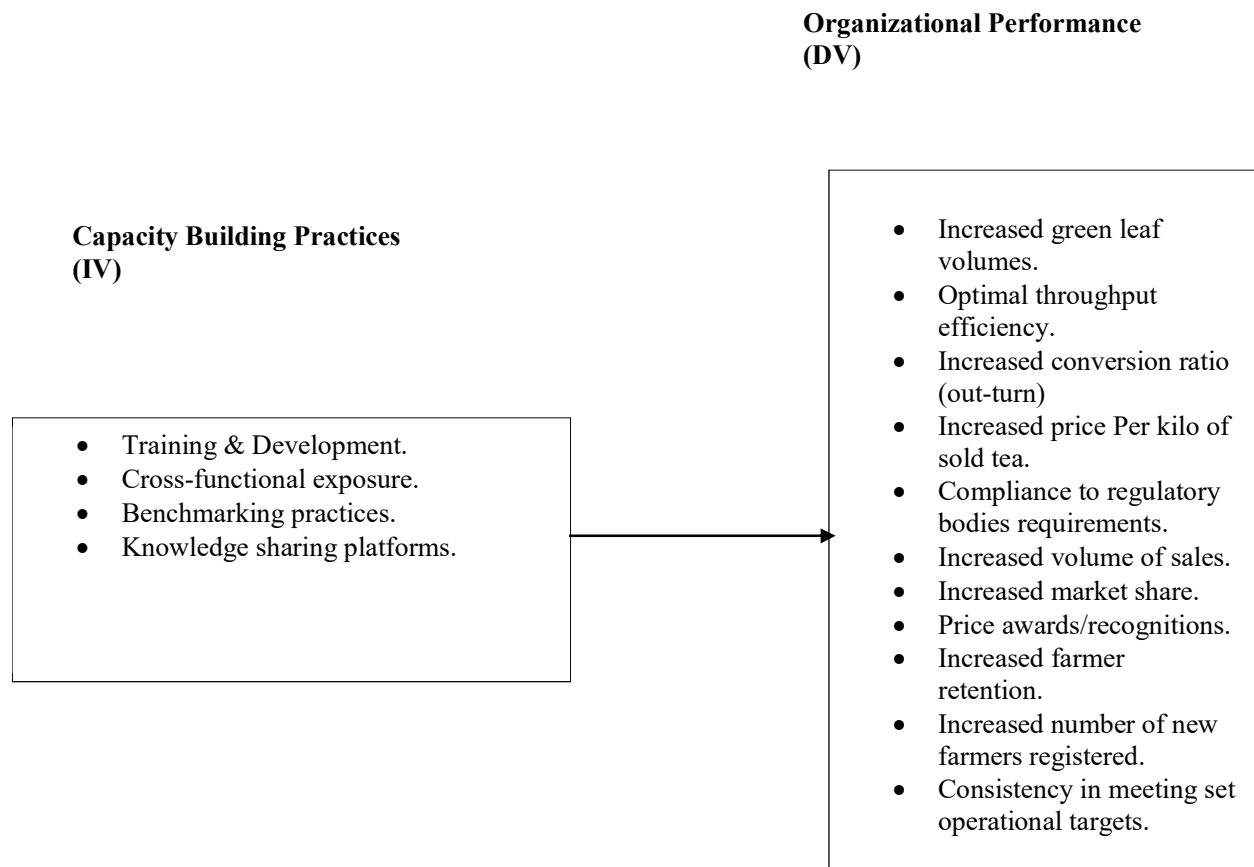


Figure 1: Conceptual framework showing effect of Capacity Building practices on organizational performance of KTDA managed tea factories

RESEARCH METHODOLOGY

Research Design

Research design provides the overall blueprint that guides the collection, measurement, and analysis of data in order to address research questions and achieve study objectives (Creswell

& Creswell, 2018). It defines the structure through which relationships among variables are examined and ensures that the research process is systematic, valid, and reliable.

This study adopted a quantitative research approach, which emphasizes the use of numerical data and statistical techniques to test hypotheses and establish relationships among variables. The quantitative approach was deemed appropriate because the study sought to examine the influence of capacity building practices on organizational performance of KTDA-managed tea factories. This approach allows for objective measurement of variables, facilitates statistical testing of relationships, and supports the generalization of findings across the population.

Within the quantitative paradigm, the study employed a descriptive research design. Descriptive research design is suitable for systematically describing the characteristics of a population and examining the status of variables as they exist without manipulation (Sekaran & Bougie, 2020). In the context of this study, the design enabled the assessment of the extent to which KTDA-managed factories implement capacity building practices- such as training and development programs, cross-functional exposure, bench marking practices and, knowledge sharing platforms- and how these relate to organizational performance indicators.

Furthermore, descriptive research design is particularly appropriate for studies involving intangible organizational constructs, such as leadership practices, and performance outcomes, where the objective is to establish patterns, relationships, and trends across a population. It provides a structured approach for capturing perceptions, practices, and experiences of respondents, thereby enabling comprehensive analysis of organizational phenomena.

The suitability of descriptive design is also supported by its application in similar empirical studies. For instance, Onuorah and Ntagu (2024) employed a descriptive survey design to examine the role of leadership in enhancing cognitive diversity and organizational learning, demonstrating its effectiveness in analysing relationships among intangible constructs. Similarly, Aksah et al. (2023) utilized a descriptive design to investigate the impact of performance evaluation instruments on organizational effectiveness in the construction sector. These studies affirm that descriptive research design is appropriate for examining organizational strategies, human capital practices, and their influence on performance outcomes.

Overall, the adoption of a quantitative descriptive research design in this study provided a robust and systematic framework for analysing the relationship between capacity building practices and organizational performance, while allowing for empirical testing of hypotheses and generalization of findings within KTDA-managed tea factories.

Study Area

A study area refers to the specific geographical location within which a research project is conducted and from which data are collected (Kothari & Garg, 2022). It provides the physical and contextual setting that defines the scope, relevance, and applicability of the study findings (Kumar & Sharma, 2022). Clearly delineating the study area is essential, as it establishes the

socio-economic and operational boundaries within which the research is undertaken, thereby enhancing the interpretability, credibility, and generalizability of the results. The selection of a study area is therefore guided by the nature of the research problem, the objectives of the study, and practical considerations such as accessibility, population characteristics, and resource availability (Kothari & Garg, 2022).

This study was conducted in Nyamira and Kisii Counties, which form a significant part of Kenya's western tea-growing zone under the Kenya Tea Development Agency (KTDA). These counties provide a contextually relevant and representative setting for examining organizational performance in tea processing factories. In recent years, KTDA-managed factories within this region have exhibited fluctuating performance trends, including comparatively lower bonus payments, operational inefficiencies, and inconsistencies in productivity. These challenges have been widely associated with limitations in management practices, innovation capacity, and broader organizational systems, thereby making the region an appropriate context for investigating the role of capacity building practices in influencing organizational performance. Furthermore, the workforce within tea factories in Nyamira and Kisii Counties is characterized by considerable cognitive, educational, and experiential diversity. This diversity provides an appropriate setting for examining how capacity building practices—such as training and development, cross-functional exposure, benchmarking, and knowledge-sharing platforms—can be leveraged to enhance employee capabilities and improve organizational outcomes. The presence of diverse skill sets and perspectives makes the region particularly suitable for analysing how capacity building contributes to improved efficiency, quality, adaptability, and overall factory performance.

Empirical evidence also supports the relevance of this study area. Previous studies (e.g., Otieno, 2022; Muriuki & Njeru, 2023) have identified persistent weaknesses in capacity building practices and managerial approaches within KTDA-managed factories in this region. These shortcomings have been linked to suboptimal performance outcomes, thereby reinforcing the need for further investigation. By focusing on Nyamira and Kisii Counties, this study not only addresses a region experiencing real and documented performance challenges but also generates findings that are both practically relevant and potentially generalizable to other KTDA-managed factories operating under similar conditions.

Target Population

The target population for this study comprised employees of KTDA-managed tea factories located in Nyamira and Kisii Counties. These two counties collectively host 14 tea factories, namely Nyansiongo, Nyankoba, Tombe, Gianchore, Kebirigo, Matunwa, Sanganyi, and Sombogo in Nyamira County, and Nyamache, Itumbe, Ogembo, Eberege, Kiamokama, and Rianyamwamu in Kisii County. The factories are representative of KTDA-managed operations, as they exhibit similarities in governance structure, production systems, and workforce composition, making them suitable for this investigation. The total target population across the 14 factories was 858 permanent employees comprising of: managers, supervisors, and operational staff. Table 3.1 shows the target population.

Table 3.1: Target Population.

Factory	Managers	Supervisors	Operational Staff	Total
Gianchore	6	4	71	81
Kibirigo	10	2	47	59
Nyankoba	7	4	97	108
Sanganyi	6	4	80	90
Tombe	6	3	58	67
Sombogo	4	1	28	33
Nyansiongo	7	2	77	86
Matunwa	2	1	5	8
Ogembo	6	2	53	61
Eberege	4	2	49	55
Kiamokama	6	2	39	47
Rianyamwamu	4	2	37	43
Nyamache	6	3	57	66
Itumbe	6	2	46	54
Total	80	34	744	858

Source: KTDA data 2025.

Sampling And Sample Size

Sampling refers to the process of selecting a subset of individuals or items from a larger population to represent the entire group in a study (Shakiru & Ismet Boz, 2021). The main purpose of sampling was to gather data that accurately reflects the characteristics, experiences, or opinions of the whole population without the need to collect information from every single member, which is often impractical due to time, cost, and logistical constraints (Saunders, & Thornhill, 2021; Creswell & Creswell, 2018).

Sample Size

A sample size refers to the specific number of observations or respondents selected from a larger population to participate in a study, ensuring the findings are statistically valid and representative of that population (Saunders et al., 2021). The study adopted Taro Yamane’s (1967) formula for determining the appropriate sample size. The formula was given as:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- **n** = sample size
- **N** = total population (858)
- **e** = desired level of precision (0.05 at 95% confidence level)

Substituting the values:

$$n = 858 / (1 + 858(0.05)^2) = 273$$

Recognizing that real-world data collection often encounters non-response, incomplete, or invalid responses, the study made provision for a 30% non-response rate in line with recommendations by Omosa et al. (2022), citing Cheung (2017), Berg (2018), and Yangon

(2015). This adjustment increases the sample to ensure that the effective (completed) sample remains statistically adequate after accounting for expected attrition.

Using the calculated sample $n=273$ and applying the non-response contingency:

Adjusted sample = $n / (1 - \text{non-response rate}) = 273 / (1 - 0.30) = 390$. Table 3.2 shows the study sample size.

The study involved 390 respondents drawn from KTDA-managed tea factories in Nyamira and Kisii Counties, comprising 39 managers, 17 supervisors, and 334 operational staff. This distribution reflected the full organizational hierarchy of KTDA factories and ensured a comprehensive understanding of how capacity building practices influence performance. In KTDA factories, managers are senior officials responsible for strategic oversight, resource allocation, compliance, and overall factory operations. Their perspectives are essential because they directly shape managerial attributes such as decision-making competence, inclusivity, intrapreneurial orientation, and conflict-resolution capacity. Supervisors form the middle-management tier, linking managerial decisions to daily operational activities. They oversee production processes, coordinate workflows, and monitor quality, making them key informants on how management strategies are executed on the ground. Operational staff include machine operators, quality controllers, leaf clerks, maintenance personnel, and general workers who perform the core production tasks. Their input provided practical insights into how training, team composition, collaboration systems, and work design affect day-to-day performance outcomes. Together, these three respondent groups offered a balanced and reliable representation of the strategic, supervisory, and operational dimensions of KTDA factory. This strengthened the validity of the study and ensured that perspectives across all levels of factory operations were adequately captured.

The sample size of 390 was consistent with empirical practice in organizational research conducted in comparable contexts; comparable research has adopted similar sample sizes within the range of 380 to 400, demonstrating the methodological appropriateness of such a sample size in organizational studies. For instance; a study by Degu and Mengistu (2024) investigating the effects of employee engagement on organizational performance in public universities in Ethiopia employed a sample size of 384, calculated using Cochran's formula and adjusted for a finite population. Similarly, Teklehaimanot et al. (2023) conducted a study on leadership practices among primary healthcare managers and used a systematically determined sample of 532 respondents, demonstrating that large, statistically calculated samples are widely accepted in organizational research involving stratified populations. These examples affirmed the methodological validity of a sample size of 390 used in this study.

Table 3.2: Sample size.

Factory	Managers	Supervisors	Operational Staff	Total
Gianchore	3	2	33	38
Kebirigo	5	1	21	27
Nyankoba	4	2	43	49
Sanganyi	3	2	35	40
Tombe	3	2	26	31
Sombogo	1	0	13	14
Nyansiongo	4	1	33	38
Matunwa	1	0	3	4
Ogembo	3	1	24	28
Eberege	1	1	23	25
Kiamokama	3	1	17	21
Rianyamwamu	1	1	17	19
Nyamache	4	2	25	31
Itumbe	3	1	21	25
Total	39	17	334	390

Source: KTDA data 2025.

Sampling Procedure

A sampling procedure is the systematic method or set of steps researchers use to select a subset of individuals or cases from a larger population to participate in a study (Sekaran & Bougie, 2022). To ensure the sample accurately reflects the diversity of roles within the KTDA-managed tea factories, the study employed a stratified random sampling technique. Stratified sampling ensured that each category was adequately represented in the sample relative to its size in the population (Kothari, 2014). Once the strata were established, simple random sampling was used to determine the number of respondents selected from each stratum. This approach guaranteed that all relevant subgroups were adequately represented, thereby enhancing the generalizability and validity of the study findings. The proportional allocation ensured the sample mirrored the real structure of the workforce across the fourteen factories.

Sampling Frame

The sampling frame refers to the list of elements from which a sample is drawn, and it should adequately represent the target population (Bryman, 2016). In this study, the sampling frame comprised the formal organizational structures of all the 14 KTDA-managed factories in Nyamira and Kisii counties. Each Factory’s unit manager was requested to provide an up-to-date staff list and a hierarchical organizational chart that reflected current personnel and functional divisions. This approach was suitable because it ensured accurate representation of managers, supervisors, and operational staff across the factories, thereby enhancing the reliability of the sampling process (Creswell & Creswell, 2018). Using the formal organizational chart minimized coverage error and ensured that no eligible respondent category was excluded. Moreover, the hierarchical format reflected the management chain of command, which was crucial for aligning the study with decision-making and performance structures

within KTDA factories. The typical organizational chart across KTDA factories is shown in Figure 1.

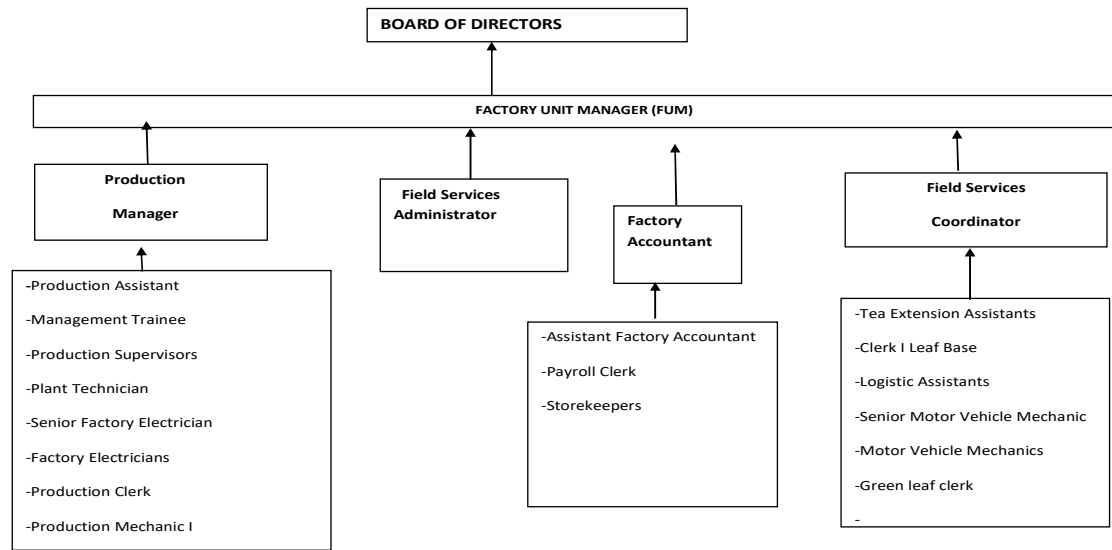


Figure 1: Showing organizational structure of a KTDA Factory
 Source: KTDA data 2025.

Data Collection

Data collection refers to the systematic process of gathering information that is relevant to the research problem in order to provide answers to the study objectives (Creswell & Creswell, 2018). It is central to transforming theoretical constructs into empirical evidence that supports valid and reliable conclusions. Research data is categorized into two types: primary data and secondary data. Primary data refers to original data collected firsthand by the researcher specifically for the study’s objectives, often through surveys, interviews, experiments, or observations whereas secondary data consists of information previously collected and documented by other researchers, institutions, or databases, such as reports, publications, and archival records (Saunders et al., 2021). Proper data collection methods enhance the credibility and replicability of research findings (Sekaran & Bougie, 2022). This study exclusively collected primary data using structured questionnaire as a survey tool.

Primary data collection instruments are tools used by a researcher to gather original first-hand data directly from respondents or sources. These instruments vary depending on the research design, nature of data, and method of data collection. The main types of instruments for data collection include: questionnaires, interview schedules or guides, observation checklists or schedules, experimentation instruments, focus group discussion guides, document analysis, and digital or technological tools among others (Kothari, 2004; Sekaran & Bougie, 2019). This study used structured questionnaires to gather primary data.

Data Collection Instruments

A data collection instrument is any tool or device- such as a questionnaire, interview schedule, or observation checklist- used by researchers to systematically gather data relevant to study

objectives (Sekaran & Bougie, 2022). The primary instrument for data collection in this study was a structured questionnaire.

Validity of Research Instrument

Validity is concerned with the degree to which a research instrument accurately measures the constructs it is intended to measure (Creswell & Creswell, 2018). To ensure the research instrument used in this study was valid, both content validity and construct validity were assessed. Content validity was assessed to confirm whether the questionnaire fully represented the breadth of the concept it intended to measure; this was evaluated through expert reviews and quantified using the Content Validity Index (CVI).

Construct validity examined how well questionnaire items empirically aligned with theoretical constructs, through Exploratory Factor Analysis (EFA), (Chen et al., 2022). EFA assessed whether questionnaire items grouped together under expected latent constructs (Williams et al., 2010). Before conducting EFA, data suitability was evaluated using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. KMO values of ≥ 0.60 and a significant Bartlett's Test ($p < .05$) indicated that the data was suitable for factor analysis (Hair et al., 2019). Factors were extracted using Principal Component Analysis with Varimax rotation, and items with loadings of ≥ 0.40 will be retained (Field, 2018).

Reliability of Research Instrument

In this study, reliability testing was carried out through a pilot study conducted prior to the main data collection. The pilot study was administered to respondents who shared similar characteristics with the target population but were not part of the final sample to avoid biasing the main analysis (Saunders et al., 2021); the pilot study was conducted in Mogogosiek tea factory in zone nine (9) located in Bomet County.

The number of respondents for the pilot study followed recommended methodological guidelines suggesting that the pilot sample should typically be 10% of the sample size (Hertzog, 2008; Johanson & Brooks, 2010). Reliability of the questionnaire was evaluated using Cronbach's alpha coefficient (α), which assesses the internal consistency of multi-item scales (Gliem & Gliem, 2003). A Cronbach's alpha coefficient of 0.70 or higher was considered reliable, indicating that items measuring each construct were sufficiently correlated and consistently captured the same underlying concept (Tavakol & Dennick, 2011).

Data Analysis and Presentation

Data analysis and presentation are critical steps in ensuring that research findings are transformed into meaningful insights to address the study objectives. According to Creswell and Creswell (2018), data analysis involves organizing, reducing, and interpreting data to provide logical explanations to research questions. In this study, data analysis was conducted with the help of the Statistical Package for Social Sciences (SPSS). The results were presented in tables and figures for clarity and interpretability (Saunders et al., 2019).

Data analysis

The study adopted descriptive statistical methods to analyze data with the help of Statistical Package for the Social Sciences (SPSS) to generate descriptive and inferential statistics, ensuring systematic, objective, and replicable analysis (Sekaran & Bougie, 2022; Saunders et al., 2021). Data was presented in form of tables, figures, means, frequencies, percentages and standard deviation. This descriptive approach provided an overview of the sample's demographic characteristics and the distribution of responses for the study variables.

Correlation Analysis

Correlation analysis was conducted using Pearson's product-moment correlation coefficient (r) to determine the strength and direction of association between capacity building practices (X) and performance (Y). The coefficient ranges between -1 and $+1$, where values closer to ± 1 indicate stronger relationships, while values near zero denote weaker associations (Field, 2018). According to Cohen (1988), thresholds for interpretation are: weak ($r = .10-.29$), moderate ($r = .30-.59$), and strong ($r \geq .60$).

Correlation analysis provided the foundational evidence for regression analysis. If significant correlations existed between the independent and dependent variables; regression analysis becomes justified as a method for predicting the effect of independent variables on the dependent variable (Cohen et al., 2003).

Regression analysis

Regression analysis was employed to establish the predictive power of capacity building practices on performance.

Simple linear regression (SLR)

Simple linear regression was used to test the direct effect of capacity building practices (X) on dependent variable (Y). The following simple linear regression models were generated: -

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Talent acquisition strategies

Where:

Y = Organizational performance

β_0 = Constant term

β_1 = Beta Coefficient(s) of IVs

X = Capacity building practices (IV)

ε = Error term

RESEARCH FINDINGS AND DATA ANALYSIS

Descriptive Statistics

Capacity Building Practices

The respondents were asked the extent of their agreement or disagreement with the statements regarding capacity building practices showing extent to which learning and development enhance organizational performance. The findings are reported in table 4.1

The results show that there is continuous training of employees to enhance their technical skills (mean = 4.39, SD = 0.71). This suggests that the factories place significant emphasis on improving the technical competencies of their workforce through ongoing training initiatives. Respondents also agreed that the factories organize benchmarking visits to other factories (mean = 4.32, SD = 0.84). Such benchmarking activities can help employees gain new insights and improve operational efficiency within their own factories. The findings further reveal that factory staff participate in workshops and seminars (mean = 4.29, SD = 0.79). This indicates that the factories support professional development through formal learning forums where employees can acquire new knowledge, share experiences, and learn about emerging trends relevant to the tea processing industry.

In addition, respondents agreed that the factories encourage mentoring and peer learning among staff (mean = 4.13, SD = 0.86). This suggests that internal knowledge sharing mechanisms exist within the factories, allowing experienced employees to guide and support their colleagues.

The results also show that employees regularly use knowledge shared by colleagues (mean = 3.95, SD = 0.79). The use of shared knowledge can enhance teamwork, improve decision-making, and promote the adoption of effective work practices. Similarly, respondents moderately agreed that technology platforms are available in the factories (mean = 3.87, SD = 0.95). This suggests that digital or technological systems that support knowledge sharing and learning exist, although their availability or utilization may vary across factories.

The findings further indicate that the factories have external learning programs (mean = 3.84, SD = 0.93). This implies that employees are occasionally exposed to learning opportunities outside the organization, which can help them acquire new perspectives, technical skills, and industry knowledge that enhance their performance. Respondents also moderately agreed that the factories have employee job rotation policies (mean = 3.83, SD = 1.02). This suggests that job rotation is practiced to some extent as a capacity-building strategy that allows employees to gain experience in different roles and departments, thereby broadening their skills and understanding of factory operations.

Overall, the items measuring capacity building practices recorded a grand mean of 4.08 and a standard deviation of 0.86, indicating that respondents generally agreed that the factories have implemented various capacity building initiatives to enhance employee skills, knowledge sharing, and professional development. A grand mean above 4.0 implies that capacity building is strongly embedded in organizational practices, supporting the development of employee skills, knowledge sharing, and continuous improvement. The standard deviation of 0.86 indicates moderate variability, meaning that while most respondents agree, there are slight differences in perceptions across factories. The findings imply that: tea factories have robust capacity-building systems, particularly in training, benchmarking, and professional development; however, there is a need to strengthen job rotation, external learning opportunities, and technology integration to ensure more uniform capacity development and, enhancing these areas could further improve cognitive diversity, innovation, and overall organizational performance. Capacity building practices play a critical role in enhancing

cognitive diversity management strategies, as they: equip employees with diverse skills and perspectives, promote knowledge exchange and, strengthen adaptive and innovative capabilities. This suggests a likely positive contribution to organizational performance, which can be further validated through regression analysis.

These findings are supported by Alshammari (2023), whose study in Saudi Arabian multinational firms revealed that cognitive diversity-oriented training significantly enhanced employee creativity, problem-solving capabilities, and innovative performance. Similarly, Liu and Fang (2022) found that structured training promoting knowledge-sharing and interdisciplinary collaboration improved innovation, operational efficiency, and financial outcomes in Chinese high-tech enterprises. Jackson et al. (2021) further demonstrated that human capital investments, including inclusive training interventions, strengthened absorptive capacity, productivity, and problem-solving outcomes in U.S. firms.

Further, the findings agree with Oladipo and Adeyemi (2023) who reported that diversity-sensitivity training enhanced team cohesion and performance in Nigerian public organizations; also, the findings are consistent with Adekunle and Osei (2023) who reported that mentoring systems, peer learning, and structured knowledge transfer improved productivity and process innovation in West African agro-processing firms. Moreover, the findings agree with Korir and Ochieng (2022) whose study established that training in modern processing technologies improved output efficiency and strengthened problem-solving capabilities in tea factories, and Waweru and Ndiritu (2024) whose study highlighted the role of inter-factory exchange programs and knowledge-sharing sessions in improving operational efficiency. Chege and Muriithi (2024) also confirmed that learning forums and reflective training enhanced operational, innovation, and quality performance in Kenyan tea factories, with leadership support strengthening these effects whereas; Otieno and Gichuki (2024) reported that job rotation and cross-functional exposure increased employee agility and teamwork, contributing to improved quality outcomes; these findings are in agreement with current study's findings. Collectively, these studies corroborate the current findings, demonstrating that structured capacity-building initiatives including formal training, peer learning, mentoring, and external exposure enhance employee skills, problem-solving ability, and overall organizational performance. While prior research highlights the benefits of training and knowledge-sharing, the present study emphasizes their application within the resource-constrained context of Kenyan tea factories, showing that such practices can effectively strengthen workforce competencies and promote operational and innovation outcomes even in traditional manufacturing environments.

Table 4.1: Descriptive Statistics on Capacity Building Practices

	N	Minimum	Maximum	Mean	Std. Deviation
C1: There is continuous training of employees for enhanced technical skills.	317	1	5	4.39	.706
3C2: The factory has employee job rotation policy.	317	1	5	3.83	1.019
C3: The factory takes its employees to other factories for benchmarking visits.	317	1	5	4.32	.835
C4: Factory staff participates in workshops and seminars.	317	1	5	4.29	.787
C5: The factory has external learning programs.	317	1	5	3.84	.928
C6: Employees regularly use knowledge shared by colleagues.	317	1	5	3.95	.792
C7: The factory encourages mentoring and peer-learning among its staff.	317	1	5	4.13	.855
C8: Technology platforms are available in the factory.	317	1	5	3.87	.946
Grand Mean				4.08	0.86

Source; Field Data, 2026.

Correlation Analysis

Pearson’s Product Moment Correlation Coefficient (r) was used to establish the relationship between the study variables. The correlation coefficient indicates both the strength and direction of the relationship between variables under investigation. The study used correlation analysis to determine the strength of the relationship between capacity building practices and organizational performance of KTDA managed tea factories in Nyamira and Kisii counties. Pearson’s correlation analysis was therefore applied to measure the degree of association among the variables as presented in Table 4.2 The results indicate that Capacity Building has a moderate, positive and significant relationship with organizational performance ($r = 0.471$, $p < 0.01$).

Table 4.2: Correlations Matrix on Capacity Building Practices and Organizational Performance

		Capacity Building	Organizational Performance
Capacity Building	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	317	
Organizational Performance	Pearson Correlation	.471**	1
	Sig. (2-tailed)	.000	
	N	317	317

Source; Field Data, 2026.

Regression Analysis

Effect Of Capacity Building Practices On Organizational Performance

The study objective was to examine the effect of capacity building practices on organizational performance of KTDA-managed tea factories in Nyamira and Kisii counties. Hypothesis **H₀₁** was tested:

H₀₁: Capacity building practices do not have statistically significant effect on organizational performance of KTDA managed tea factories in Nyamira & Kisii.

The model was formulated as follows:

$$Y = \beta_0 + \beta_2X + \varepsilon$$

Table 4.3 a, b and c present the results of a simple linear regression analysis examining the effect of capacity building practices on organizational performance.

The model summary shows that: R = 0.471- This indicates a moderate positive relationship between capacity building practices and organizational performance; R² = 0.222- this implies that 22.2% of the variation in organizational performance is explained by capacity building practices; Adjusted R² = 0.219- after adjusting for sample size, the model still explains 21.9% of the variation, indicating a robust and reliable model. The Standard Error = 0.51407- this indicates a relatively low level of prediction error, suggesting good model fit.

Table 4.3 (a): Showing model summary of capacity building practices on Organizational Performance.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.471 ^a	.222	.219	.51407

a. Predictors: (Constant), Capacity Building

Source; Field Data, 2026.

The ANOVA results show: $F(1, 315) = 89.681, p = 0.000$; further, the calculated F value of 89.681 is higher than the critical F value of 3.84; the $p = 0.000 < 0.05$; this shows that- the regression model is statistically significant; hence, capacity building practices significantly predict organizational performance and, the model provides a better fit. The null hypothesis H_{01} : Capacity building practices do not have a statistically significant effect on organizational performance is rejected. It is concluded that; Capacity building practices have a positive and statistically significant effect on organizational performance.

The findings show that capacity building practices have a positive and statistically significant effect on organizational performance. This result is strongly supported by the literature reviewed. Alshammari (2023), Liu and Fang (2022), and Jackson et al. (2021) found that interdisciplinary training, continuous learning, and knowledge-sharing practices enhance employee creativity, innovation, and productivity. Oladipo and Adeyemi (2023) and Adekunle and Osei (2023) demonstrated that diversity-sensitive training and mentoring systems improve organizational adaptability and performance. Korir and Ochieng (2022), Waweru and Ndiritu (2024), and Otieno and Gichuki (2024) found that training in modern tea-processing technologies, benchmarking visits, and job rotation significantly improve efficiency, problem-solving, and product quality in tea factories.

Although no study in the reviewed literature directly contradicts this finding, some scholars emphasize that the effectiveness of capacity building depends on supportive organizational conditions. The literature indicates that cognitive diversity does not automatically translate into improved performance unless organizations provide mechanisms for knowledge integration, continuous learning, and application of acquired skills. Therefore, the present finding supports the dominant empirical evidence while suggesting that capacity building practices are most effective when supported by appropriate organizational systems and managerial commitment.

Table 4.3 (b): Showing ANOVA of capacity building practices on Organizational Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.699	1	23.699	89.681	.000 ^b
	Residual	83.243	315	.264		
	Total	106.942	316			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Capacity Building

Source; Field Data, 2026

The coefficients show that: constant ($\beta_0 = 2.022, p = 0.000$) means that- When capacity building practices are absent, organizational performance is predicted at 2.022. Capacity Building ($\beta_1 = 0.469, p = 0.000$) means that- a one-unit increase in capacity building practices leads to a 0.469 increase in organizational performance. The relationship is positive and statistically significant and, the standardized coefficient (Beta = 0.471) indicates a moderate effect size. The t-test value of 9.470, suggests that capacity-building practices are over 9 times relative to their standard error, confirming the strength of the predictor in the model. Regression Coefficients Interpretation yield a regression equation of the form: **$Y = 2.022 + 0.469X$**

Table 4.3 (c): Showing coefficients of capacity building practices on Organizational Performance.

Model		Unstandardized		Standardized		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.022	.204		9.906	.000
	Capacity Building	.469	.050	.471	9.470	.000

a. Dependent Variable: Organizational Performance

Source: Field Data, 2026.

SUMMARY OF FINDINGS, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

The study sought to examine the effect of capacity building practices on organizational performance of KTDA-managed tea factories in Nyamira and Kisii counties. The findings indicate that capacity building practices are widely implemented across factories, particularly in the form of continuous training, benchmarking visits, workshops and seminars, and mentoring programs. Respondents strongly agreed that these practices enhance technical skills, knowledge sharing, and professional development, as reflected in a high overall mean score (grand mean = 4.08). However, relatively lower scores were recorded for job rotation, external learning programs, and technology integration, suggesting inconsistencies in the depth and uniformity of implementation across factories.

Correlation analysis revealed a moderate, positive, and statistically significant relationship between capacity building practices and organizational performance ($r = 0.471$, $p < 0.01$), indicating that improvements in capacity building are associated with better performance outcomes. Regression analysis further established that capacity building practices significantly predict organizational performance ($\beta = 0.469$, $p < 0.05$), explaining approximately 22.2% of the variation in performance ($R^2 = 0.222$). The regression model was statistically significant ($F = 89.681$, $p < 0.001$), confirming that capacity building practices are a key determinant of organizational performance.

Overall, the findings demonstrate that while KTDA-managed factories have established capacity building systems, gaps remain in the integration, consistency, and strategic alignment of these practices. Strengthening weaker areas such as job rotation, external exposure, and technology-enabled learning is likely to further enhance cognitive diversity, innovation, and overall performance outcomes.

Conclusions and Contribution to Knowledge

The study concludes that capacity building practices have a positive and statistically significant effect on organizational performance in KTDA-managed tea factories. Specifically, structured initiatives such as training and development, benchmarking, mentoring, and knowledge-sharing platforms enhance employee competencies, promote knowledge integration, and

improve operational efficiency, thereby contributing to improved performance outcomes. However, the effectiveness of these practices is contingent upon their depth of implementation and alignment with organizational systems.

The findings further demonstrate that capacity building practices serve as mechanisms for embedding cognitive diversity within the workforce. By enhancing employees' skills, perspectives, and problem-solving capabilities, these practices enable organizations to respond more effectively to operational and environmental challenges. Nevertheless, the uneven implementation of certain practices- particularly job rotation, external learning, and technological support- limits the full realization of their potential benefits.

In terms of contribution to knowledge, the study makes several important additions. First, it extends existing literature by providing empirical evidence from a resource-constrained agro-processing context, demonstrating that capacity building practices significantly influence organizational performance even in traditional manufacturing environments. Second, the study advances theoretical understanding by linking capacity building practices to dynamic capabilities, showing how internal learning and skill development contribute to organizational adaptability and performance. Third, the study offers a multidimensional conceptualization of capacity building, integrating training, cross-functional exposure, benchmarking, and knowledge sharing into a unified analytical framework. Finally, it provides context-specific insights into KTDA-managed tea factories, addressing a previously underexplored area characterized by persistent performance disparities.

Implications of Research Findings

The findings of this study have important implications for theory, management policy and practice, and future research.

Implications for Theory (Dynamic Capabilities Theory – DCT)

The study provides strong empirical support for Dynamic Capabilities Theory by demonstrating that capacity building practices enhance an organization's ability to sense, seize, and transform in response to changing environmental conditions. Specifically, training and development enable organizations to sense opportunities and inefficiencies by equipping employees with relevant knowledge and analytical skills. Knowledge-sharing platforms and cross-functional exposure facilitate the seizing of opportunities through improved coordination, decision-making, and resource utilization. Benchmarking and continuous learning support the transformation of organizational processes, enabling firms to reconfigure their operations and improve performance outcomes.

Furthermore, the findings extend DCT by highlighting the role of micro-foundations, particularly employee learning, knowledge integration, and skill development, as key drivers of dynamic capabilities. The study demonstrates that capacity building practices operationalize dynamic capabilities at the organizational level by translating individual competencies into collective organizational performance.

However, the moderate explanatory power of the model ($R^2 = 0.222$) suggests that dynamic capabilities alone do not fully explain performance variation, thereby reinforcing the need for integrating DCT with complementary theoretical perspectives such as leadership theory and resource-based perspectives. Overall, the study refines DCT by emphasizing that continuous capability development through structured learning systems is central to achieving sustained performance in dynamic environments.

Implications for Management Policy and Practice

The findings underscore the need for KTDA management and factory leadership to reposition capacity building as a strategic organizational capability rather than a routine administrative function. First, factories should strengthen the design and implementation of training programs to ensure alignment with operational goals, technological advancements, and market demands. Training should focus not only on technical skills but also on problem-solving, innovation, and adaptability.

Second, management should enhance cross-functional exposure and job rotation to promote flexibility, knowledge integration, and collaboration across departments. This will improve workflow efficiency and enable employees to respond effectively to operational challenges. Third, factories should institutionalize benchmarking practices and inter-factory learning to facilitate the adoption of best practices and improve competitiveness.

Fourth, there is a need to strengthen knowledge-sharing platforms and technological support systems to enhance continuous learning and information exchange. Investment in digital learning systems and collaborative tools will improve knowledge accessibility and utilization across factories. Fifth, leadership should play an active role in supporting capacity building initiatives by fostering a culture of learning, encouraging innovation, and ensuring that acquired skills are effectively applied in practice.

At the policy level, KTDA and relevant stakeholders should develop standardized frameworks for capacity building across factories, promote knowledge exchange programs, and support continuous professional development initiatives. These measures will enhance consistency, improve performance, and reduce disparities across factories.

Recommendations For Future Studies

Based on the findings and limitations of this study, several recommendations for future research are proposed. First, future studies should incorporate additional variables such as leadership practices, innovation systems, and organizational culture to develop more comprehensive models explaining organizational performance. Second, longitudinal research designs are recommended to examine how capacity building practices influence performance over time and to capture dynamic changes in organizational capabilities.

Third, future research should explore the moderating and mediating roles of leadership and cognitive diversity, respectively, in the relationship between capacity building practices and performance. This will provide deeper insights into the mechanisms through which capacity

building influences organizational outcomes. Fourth, studies should expand the geographical scope to include other KTDA zones or compare different agro-processing sectors to enhance generalizability.

Fifth, future research should adopt mixed-method approaches, combining quantitative and qualitative techniques to provide deeper insights into how capacity building practices are implemented and experienced within organizations. Finally, there is a need to develop more refined measurement scales for capacity building and cognitive diversity to improve the precision and robustness of empirical analysis.

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