

Relationship between Lean Management Strategy and Performance of Multi-National Tea Firms in Kenya

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ABSTRACT

The economic and social development of Kenya is heavily reliant on agriculture. Tea, as a major cash crop, has contributed significantly to the economy. However, the tea sector faces numerous problems that endanger its viability unless rapid intervention measures are implemented, thereby prompting the introduction of cost reduction in the sector. The challenges of production and marketing have been the most detrimental. On this background, this study sought to examine the relationship between lean management strategy and performance of Multi-national tea firms in Kenya. The study was guided by the Competitive Advantage Model, Resource-Based View Theory, and Transaction Cost Theory, and it adopted a causal research design. The target population of the study were 118 top, middle and low managers in Ekattera, Brown Investment PLC and George Williamson. Census of the all employees in the multinational companies was used in the study. Primary data was collected using structured online questionnaires and interviews using census technique. A pilot of 10 questionnaires was given to employees in Litein tea factory. Instruments' validity and reliability was checked using Cronbach's alpha which yielded a value of 0.785 showing that the instrument was reliable and validity was ascertained through consultation with subject expert at the department lead by the supervisor. Correlation analysis and simple linear regression was used to test the relationship between lean management as a cost reduction strategy and firm performance. Analysis of data was done using SPSS version 26, which generated both descriptive and inferential statistics. Data was presented using tables, figures and pie charts. Results showed that lean management strategies accounted for 68.1% of the variance in the firm performance ($R^2 = 0.681$). Lean management ($p < 0.001$ and $\beta = 0.825$) showed statistically significant positive influence on the performance of multinational tea firms. Qualitative findings from interviews were thematic analysed to get inferences to support the quantitative findings. The study found lean management is a key enabler for operational and financial success in the Kenyan tea sector. Ultimately, the study recommends that multinational tea firms adopt and institutionalize lean management practices to optimize resource efficiency, minimize waste, and drive sustainable performance improvements in the competitive global tea market.

Keywords: Lean management, Cost reduction, Firm performance, Multinational tea corporations, Agro-processing

INTRODUCTION

Business environment is competitive in this modern era. Organizations are striving for high performance in both production as well as profitability hence engaging in competition for the few customers. Performance is a multidimensional concept which can be view in different paradigms. The paradigms can be the industry, type of organization or even the objective of the organization. According to Lee et al. (2015) in China, firm performance related to the market share, customer retention and sales volume since the research was done in hotel industry. Performance can be view in financial ability and resources like revenue and profitability Fatihudin (2018) findings in Babylon. Other relates to financial performance, environmental safety, customer satisfaction and corporate social responsibility (Abonda, 2017). The common concepts from the three research is that they were investigating competitive strategies using different concepts of performance. Financial performance remains the main concern of most of firms. However, to ensure high financial performance there is need to reduce cost of

production which is contributed by high overhead or administration cost, material cost as well as operation cost mainly in manufacturing and processing industry. In service-based industry overheads and operation cost are the main cost that are consider. Through reduction of cost of production organization can achieve high financial performance.

Businesses employ cost-reduction tactics to lower expenditures and boost their bottom line. These tactics may involve lowering input costs, boosting operational effectiveness, enhancing cash flow, and maximizing the use of technology. The goal of this approach is to cut the price of the raw materials or services required to manufacture goods and services (Rammer, 2023). This entails negotiating a reduced price for goods and services, utilizing a different supplier, or utilizing resources more effectively. This tactic entails altering procedures and standards in an effort to boost productivity and cut expenses. This may entail implementing more automated procedures, providing personnel with training, or using technology to make procedures more efficient.

In India, better cash flow management may help many firms, especially in lean times. This may entail tighter money management, a decrease in cash outlays, and contract negotiations with creditors. Cost reduction is mostly made possible by technology. This might involve developing software that automates procedures, utilizing the cloud to cut down on capital expenses, or applying other tech-based solutions (Madhani, 2020). Depending on how effective they are, cost reduction measures might have an impact on performance. Businesses should be able to cut expenses while simultaneously enhancing the quality of their goods and services if the tactics are successful. Profits will increase as a consequence, and increased success and performance will follow. Businesses may find themselves in a worse situation than before if the methods fail, and performance may decline.

Schwantz et al. (2023) investigated the relationship between the performance of organizations and the adoption of lean management techniques, focusing specifically on a public organization such as the military. The study showed that lean techniques including waste reduction, leadership and support, employee involvement, training and education, long-term perspective, quality, and systems thinking positively impact organizational performance.

When determining an organization's overall success, performance is crucial, most a time a company's success is determined by how successfully it achieves its financial objectives, but this is not the sole criterion (Hotti, 2021). Customer happiness, staff engagement, product or service quality, operational effectiveness, and market position are other factors to take into account. Periodic reviews, strategic planning meetings, and benchmarking can all be used to evaluate and enhance an organization's performance. The Kenyan tea industry is a critical sector for the nation's economy in terms of creating employment, generating foreign exchange revenue and contributing to gross domestic product. But recently, multinational tea firms have reported reduced performance levels due to high production costs for labour, energy, farm inputs and taxes. This has adversely affected profitability and efficiency of firms, and hence the competitiveness and viability of the tea sector. While firms have implemented different cost reduction strategies including outsourcing, lean management, value engineering and cost-benefit analysis, it's unclear how these strategies have enhanced firm performance. Prior research has considered cost reduction strategies and firm performance in various industries and countries; however, these studies have mainly examined either different industries, or small and medium enterprises, which may not be relevant to multinational tea firms in Kenya. This left a gap in both context and approach to what effect lean management strategies have on performance. Hence, this study aimed to fill this gap by exploring the association between lean management as a cost reduction strategy and performance of multinational tea firms in Bomet and Kericho counties. The objectives of the study was to determine the relationship between lean management strategy and performance of multinational tea firms in Bomet and Kericho counties.

Kericho and Bomet counties form the core of Kenya's tea-growing region and are among the leading contributors to the country's total tea production. These regions benefit from favorable climatic conditions, including high rainfall and fertile soils, which support large-scale tea farming and processing. Notably, the counties host several multinational tea firms such as Ekattera, Brown Investment PLC and George Williamson, with extensive plantation and processing operations, making them critical to both local employment and national export earnings. Despite their strategic importance, tea firms in these regions continue to face increasing production

costs related to labor, energy, and farm inputs, which have negatively affected profitability and operational efficiency. The concentration of multinational tea firms in Kericho and Bomet, coupled with the persistent cost and performance challenges, provides a strong contextual basis for examining how cost reduction strategies specifically lean management influence organizational performance within the Kenyan tea sector. Hence the study will focus on the three multinational tea firms located in Kericho and Bomet County and control over 36% of the tea produced in Kenya.

Statement of the problem

The Kenyan tea industry is a vital economic driver, supporting national employment, foreign exchange earnings, and overall gross domestic product growth. However, multinational tea firms in Bomet and Kericho Counties face declining performance and squeezed profit margins due to escalating costs associated with labor, energy, farm inputs, and taxation. While companies have implemented Lean management practices to streamline operations, empirical evidence clarifying how process efficiency and waste elimination directly influence organizational outcomes remains limited. Systematic operational optimization is anticipated to yield measurable improvements in productivity, cost control, and overall business viability. Therefore, this study investigates the specific relationship between Lean management strategies and performance within multinational tea companies. Addressing this empirical gap is critical to establishing effective operational frameworks that guarantee long-term competitiveness in agro-processing.

Objective and Hypothesis of the Study

The objective of this study was to examine the relationship between lean management strategy and performance of multi-national tea firms in Kenya. The study tested the following hypothesis:

H₀₁: There is no statistically significant relationship between lean management strategy and performance of multinational tea firms in Bomet and Kericho counties.

LITERATURE REVIEW

Lean management is a well-known approach to enhancing efficiency and eliminating waste, which ultimately improves performance. Panigrahi et al. (2023) examined the impact of lean manufacturing practices on operational and business performance in manufacturing companies in Oman adopting a quantitative approach and using Structural Equation Modeling (SEM). The research revealed lean practices have a positive impact on operational performance by improving efficiency and waste reduction but no direct effect on business performance. This implies that although lean practices enhance operational efficiency, they may not have a direct significant influence on firm performance without other factors.

Similarly, Hassan and Pasha (2023) investigated the effect of lean manufacturing on sustainable firm performance in the leather export sector of Pakistan through a quantitative study with stratified random sampling. They found that lean practices, especially total quality management and just-in-time, lead to higher productivity, efficiency and sustainable performance. It also found that lean strategies are influenced by organisational culture. However, both studies have been conducted in the manufacturing sector, making them less relevant to the tea industry. However, they offer empirical evidence of the importance of lean management for improving performance through cost and efficiency enhancements.

Alaaraj and Bakri (2019) investigated the effect of lean manufacturing on the financial performance of manufacturing firms in South Lebanon. The purpose was to establish whether a positive relationship existed between lean practices and financial outcomes. Using a quantitative design, data were collected through questionnaires administered to 35 industrial firms. Pearson correlation and descriptive statistics were applied in the analysis. The findings revealed a significant positive association between lean manufacturing dimensions and financial performance. However, the study also noted that, in some instances, lean firms performed financially below non-lean firms. The conclusions carried implications for industrial enterprises in South Lebanon and contributed to both theory and practice. Alaaraj and Bakri (2019) highlighted an important nuance in lean management literature by showing that while lean practices generally improve financial performance, the

relationship is not universally consistent. This suggests that the effectiveness of lean implementation depends on contextual factors such as firm size, industry dynamics, and the level of implementation maturity. The relatively small sample size of 35 firms may also limit the robustness of the findings. Furthermore, the study does not clearly distinguish which specific lean practices drive performance, indicating a gap in identifying the most impactful lean dimensions for organizational success.

Ap, Ek, Nm and Ee (2020) explored the influence of lean management practices on the performance of Nigerian telecommunications firms and examined their mediating role between workplace structure and performance. A quantitative approach was adopted, utilizing secondary data from annual reports and 299 questionnaires administered to managers, supervisors, and employees in state-owned telecommunications companies selected through stratified sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Results indicated a strong positive relationship between lean management practices and firm performance. Lean practices significantly mediated the link between workplace design and performance, while workplace structure also directly enhanced organizational outcomes. The study concluded that embedding lean principles within operational and managerial systems can substantially improve performance.

Dieste et al. (2021) conducted a systematic literature review to assess the relationship between lean manufacturing and business performance. The study relied on a comprehensive review of published literature as its research design. Relevant publications were identified through electronic database searches, reference tracking, and content analysis. The synthesis of evidence demonstrated that lean manufacturing practices considerably enhance financial performance. Dieste et al. (2021) provided strong aggregated evidence supporting the positive relationship between lean manufacturing and business performance, thereby reinforcing the consistency of findings across multiple studies and contexts. By synthesizing a wide range of empirical research, the study reduces individual study bias and offers a more reliable conclusion regarding lean effectiveness. However, the study's reliance on secondary data limits its ability to capture real-time organizational dynamics and contextual variations. Additionally, it does not provide industry-specific insights, which are essential for understanding how lean practices influence performance in sectors such as agriculture or tea production. The authors concluded that organizations seeking competitiveness and improved financial results must recognize and effectively implement lean methodologies.

Demeter et al. (2018) examined the impact of lean management on competitiveness and firm performance. The primary objective was to evaluate how lean implementation, underlying mechanisms, and preconditions contribute to improved competitiveness and organizational outcomes. A case study survey design was adopted, and quantitative descriptive analysis was used to examine the collected data. Findings showed that lean systems improved workflow processes and customer interactions. The analysis further established a strong association between cost reduction and lean implementation. Overall, the study underscored lean management's effectiveness in reducing costs, enhancing processes, and strengthening competitiveness and performance. Demeter et al. (2018) contribute to the literature by linking lean management not only to performance but also to competitiveness, emphasizing its strategic importance beyond operational efficiency. The study's findings suggest that lean implementation enhances both internal processes and external customer interactions, indicating a dual impact on organizational effectiveness. The identified link between cost reduction and lean practices further reinforces lean as a critical cost management tool. However, the study does not explicitly quantify performance improvements, which limits the ability to assess the magnitude of lean's impact. This creates a gap in measuring the economic value of lean implementation across different contexts.

Rono and Miroga (2019) examined the effect of lean inventory management practices on the performance of manufacturing firms in Nairobi City County, Kenya. The study focused on vendor-managed inventory, activity-based costing inventory systems, and just-in-time practices. A descriptive survey design was adopted, and data were collected from 213 respondents using questionnaires. Analysis was conducted using SPSS version 23. The findings indicated that lean inventory management practices generally enhance firm performance. However, the relationship between cost reduction and lean inventory practices was found to be insignificant.

The findings by Rono and Miroga (2019) introduce an important contradiction by showing that while lean inventory practices improve overall firm performance, their direct relationship with cost reduction is

insignificant. This suggests that lean practices may influence performance through indirect pathways such as improved efficiency, better coordination, and enhanced customer satisfaction rather than immediate cost savings. The study's focus on multiple inventory systems provides a broader perspective on lean application. However, the lack of a significant cost reduction effect raises questions about the assumption that all lean practices directly lower costs, indicating the need for further investigation into contextual factors affecting this relationship. Overall, the four guiding principles significantly influenced business performance.

Theoretical Framework

Resource Based View Theory

Edith Penrose (2009) explains through Resource-Based Theory (RBT) that firms can achieve sustainable competitive advantage by strategically leveraging internal resources (Clarke & MacDonald, 2019). RBT posits that organizations gain superior performance when they possess resources that are valuable, rare, inimitable, and non-substitutable, enabling them to outperform competitors. Empirical evidence strongly supports this perspective, demonstrating that RBT explains performance differences among similar firms (Bhattu-Babajee & Seetanah, 2022). Furthermore, the theory has been shown to account for performance variations among multinational corporations (Pyper et al., 2020).

The Resource-Based View (RBV) provides a solid theoretical basis by emphasizing the role of internal resources in generating long-term competitive advantage. Its strength is in recognizing that valuable, rare, inimitable, and non-substitutable (VRIN) resources are the key drivers of performance. This view allows firms to consider not only what they do, but what they have. RBV also focuses on the need for capability building and resource orchestration, showing how companies can build on their strengths to achieve strategic objectives. Within this context, a Lean management strategy serves as a critical organizational capability—a structured system of routines, continuous improvement practices, and waste-elimination processes that optimizes how tangible and intangible resources are configured. Therefore, it is well suited to studying the influence of internal efficiency, operational capabilities, and resource deployment on performance in multinational firms.

Despite its strengths, RBT has faced criticism. For instance, Danny Miller (2019) argues that the framework pays limited attention to firm size and industry-specific effects. Nevertheless, Varadarajan (2020) contends that emphasizing internal resources can still clarify certain performance disparities. Additionally, Richard Priem and John Butler (2001) note that the predictive capacity of RBT is constrained and that the model insufficiently incorporates market demand considerations. A firm may possess strong internal capabilities yet fail to secure competitive advantage if customer demand is absent.

The relevance of RBT to the current study lies in its provision of a framework for identifying and deploying internal resources to gain competitive advantage and reduce costs. Specifically, RBT grounds Lean management as a strategic capability that enables organizations to streamline processes, eliminate non-value-adding operational waste, and enhance overall efficiency. By recognizing which Lean practices and internal resources enhance firm performance, organizations can formulate appropriate cost-reduction and operational strategies that sustain competitiveness in the marketplace.

RESEARCH METHODOLOGY

This study adopted a causal research design to evaluate the influence lean management strategy on firm performance within multinational tea companies in Bomet and Kericho Counties, Kenya. The target population comprised 118 managerial personnel, spanning top, middle, and supervisory levels, across Ekaterra, Brown Investment PLC, and George Williamson Limited. A census sampling method was employed to examine the entire population, eliminating sampling bias given the manageable target size.

Primary data were gathered using structured questionnaires and interviews following institutional authorization and a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Instrument validity was established through empirical review and expert consultation with academic specialists in business administration. Operational reliability was verified via a pilot study administered to ten managers at

KTDA Litein, with internal consistency measured using Cronbach's alpha against a minimum threshold of 0.70. Pilot participants were excluded from the main study.

Collected data were coded and processed using SPSS version 26. Descriptive statistics, specifically means and standard deviations, summarized general data trends, while inferential statistical methods, including Pearson correlation and linear regression techniques, were conducted to determine the direction, strength, and explanatory power of Lean cost-management strategies on firm performance. Thematic analysis was used to analyze qualitative data from the interviews through manual coding. Throughout the research process, stringent ethical principles were upheld; participants were fully informed of the study's scope, participation remained strictly voluntary, and complete respondent confidentiality was guaranteed through anonymized data protocols.

RESULTS AND DISCUSSION

Response Rate

This study involved a census of 118 managers (top, middle and bottom) of Ekaterra, Brown Investment PLC and George Williamson. The number of questionnaires distributed was 118 and all were returned and completed and accepted for analysis as 100% response rate. This response rate enhanced the validity and representativeness of the results with respect to the target population.

Descriptive Statistics for Study Variables

Descriptive statistics of the independent variables and the dependent variable are displayed in this section. The ratings on each of the variables were done on a 5-point Likert scale.

Lean Management Strategy

The evaluation of lean management was based on eight aspects of waste reduction, and work efficiency.

Table 1 Descriptive Statistics for Lean Management Strategy

Item	Mean	Std. Deviation
LM1: Reduction of wastage is the desire of the management	3.67	.878
LM2: Wastage reduction ensures maximization of profit	3.72	.836
LM3: Work efficiency is embraced in the firm	3.81	.830
LM4: Work efficiency reduces production cost	3.94	.840
LM5: The organization outsources other activities to ensure core operations are handled by management	3.62	.969
LM6: The production is consistent to ensure steady market supply	3.61	.925
LM7: The mass production ensures the market is kept	3.71	.897
LM8: Efficiency builds relationship between management and employees	3.71	.888
Composite Mean (LM_Mean)	3.72	.600
(Source: Primary Data, 2026)		

The composite mean of the lean management was 3.72 (SD = .600). The item LM 4 (Mean = 3.94) had the highest, indicating high level of consensus that work efficiency is one of the main factors that contribute in a significant way to reducing cost of production in the tea processing factories.

Performance of Multinational Tea Firms

Five indicators were used to measure the dependent variable: firm performance. The descriptive statistics for firms' performance are provided in Table 2 below.

Table 2 Descriptive Statistics for Performance of Multinational Tea Firms

Item	Mean	Std. Deviation
POM1: Production of tea firms is on an upward trajectory	3.80	.902
POM2: Tea yields are always high in the firms	3.79	.876
POM3: Return on investment is as expected in our firms	3.85	.823
POM4: Performance of employees has been improving	3.73	.921
POM5: There is reduced turnover of employees in our firm	3.71	.953
Composite Mean (POM_Mean)	3.77	.657
(Source: Primary Data, 2026)		

The composite mean of the firms was high (3.77, SD = .657). Given the high cost of production in the tea sector, Item POM3 (Mean=3.85) was the highest which means that managers believe the return on investment is meeting their expectations.

Inferential Statistics

Correlation Analysis

The bivariate relationships between the independent variables and the firms' performance were explored by the use of Pearson product-moment correlation coefficients.

Table 3 Pearson Correlation Analysis

Variable	POM_Mean	LM_Mean
POM_Mean	1	
LM_Mean	.825**	1
Sig (2-tailed)	<.001	<.001
(Source: Primary Data, 2026)		

All had positive and statistically significant ($p < .001$) correlations. This suggests that the higher the proportion of firms applying these cost reduction strategies, the higher the levels of firm performance.

Regression Analysis

Simple linear regression analysis was carried out to explore the effects of the cost reduction strategies on firm performance.

Analysis of Variance (ANOVA)

The overall significance of the regression model is tested by the ANOVA table. The ANOVA for the regression model is shown in Table 4.

Table 4 ANOVA for Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	34.385	1	34.385	247.140	.000 ^b
Residual	16.139	116	.139		
Total	50.524	117			
(Source: Primary Data, 2026)					

The F-statistic was 247.140, and the p-value is $< .001$. This means that lean management is a significant predictor of the performance of multinational tea firms.

Coefficients and Hypothesis Testing

The regression coefficient for the performance of the firms is shown in Table 5. The regression equation was: Firm performance = $0.403 + 0.903(\text{Lean management})^{**}$

Table 5 Coefficients and Hypothesis Testing

Variable	Unstandardized B	Std. Error	Standardized Beta	t	Sig.	VIF
(Constant)	.412	.217		1.900	.060	
Lean Management (LM)	.903	.057	.825	15.721	.000	5.203
(Source: Primary Data, 2026)						

Model Summary

The r-squared value is 0.681 which means that lean management as a cost reduction strategy accounts for 68.1% of the variation in the performance of multinational tea firms. The Adjusted R-squared is .678, which shows that the model is very explanatory.

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825 ^a	.681	.678	.37300
(Source: Primary Data, 2026)				

This study evaluated the impact of lean management strategy on the firm performance. Simple Linear regression showed that lean management had significant positive effect on firm performance ($B = 0.903$, $\beta = 0.825$, $t = 15.721$, $p < 0.001$). In particular, an improvement of a single unit in the practices of lean management (waste reduction and work efficiency) results in an increase of 0.903 units in firm performance. The model explains 68.1% of the variance in performance ($R^2 = 0.681$). The findings were strong, supporting the conclusion that lean management is an important predictor of operational and financial success for the multinationals in both Bomet and Kericho county, thus rejecting the null hypothesis.

This result is consistent with Panigrahi et al. (2023), who investigated manufacturing businesses in Oman and showed that lean practices in manufacturing positively affect manufacturing performance by enhancing value creation and reducing waste. On a similar note, it supports Hassan & Pasha (2023) who concluded that there is a positive relationship between lean practices and productivity of the leather export industry in Pakistan, especially just-in-time systems and total quality management systems. The present study builds on the recent tea manufacturing based results to the agro-processing sector of Kenya and reveals that the reduction of physical and time-based waste during tea withering and drying directly correlates with increased yields. This indicates that the guidelines of waste minimisation and of work efficiency apply in many industrial sectors.

The result is also in line with Ap et al. (2020), which examined lean management practices among telecommunications companies in Nigeria and established a positive and significant relationship between lean practices and overall firm performance. In a study by Ap et al. (2020) it was found that implementing lean principles within operational and managerial systems can significantly impact the organization's outcomes by converting structural efficiencies into measurable outcomes. Lean management is an internal capability, something the firms examined have at their disposal, whereas outsourcing depends on outside forces. The standardized beta is higher (0.825), meaning that companies that have developed a strong internal lean capability outperform their competitors, just as the Resource-Based View Theory predicts.

Additionally, the result aligns with the systematic literature review (SLR) undertaken by Dieste et al. (2021), who compiled aggregated evidence that lean manufacturing practices significantly improve financial performance. According to Dieste et al. (2021), organisations aiming for competitiveness and better financial performance need to be able to properly adapt lean methodologies to achieve continuous improvement. The present research is empirical and primary in nature and substantiates this finding in the specific context of the multinational tea companies in Bomet and Kericho. Finally the descriptive data indicating that there was a high level of managerial agreement that work efficiency had a positive impact on cost reduction, confirms that lean management is the most institutionalized and effective cost cutting activity among the firms.

The findings are in line with that of Kunyoria (2018) who investigated the impact of lean manufacturing on the performance of an organization at South Nyanza Sugar Company, Awendo, Kenya. Kunyoria (2018) found that the adoption of lean manufacturing concepts, such as eliminating waste, continuous improvement, and standardization of processes, has greatly enhanced the operational and financial results of sugar company. The sugar industry analogy of the tea industry is apt because both are agro-processing industries, where raw material (sugarcane or green leaf tea) is perishable, with a strict time window for processing. The current study builds on Kunyoria (2018) who concluded that lean management is a universal performance driver in the sugar sub-sector of the agro-processing industry in Kenya, and demonstrates its effectiveness for the tea sub-sector.

The result also confirms the findings of Mwachari (2018) which studied lean management practices and operational performance of commercial banks in Kenya. In a service industry as in this case, lean practices were found to be significant predictors of operational performance by Mwachari (2018). Lean management is a key enabler of performance in the banking sector (Mwachari, 2018) and also in the tea processing sector (current study); hence, the principles of waste reduction and work efficiency are applicable across all sectors. The "waste" in the tea context is not just physical (over-fermented tea, energy losses in the drying process) but also time (delays in collection of green leaves, idle machinery etc.) wastes which directly reduce profitability.

The strong importance of lean management also backs up Resource Based View (RBV) Theory which states that firms achieve competitive advantage by utilizing their internal resources in an efficient manner. Lean management is an internal capability, that is, it is the ability of a company to coordinate the work of its

employees, its machines and its processes in order to eliminate waste and increase the productivity of these resources, in the context of the tea firms studied. As opposed to outsourcing, lean management is an instrument that is fully under the control of the company. Firms that have built up their internal lean capabilities (such as Ekaterra's standardized factory protocols or George Williamson's continuous improvement programs) excel over their competitors, according to the high standardized beta ($\beta = 0.825$). This is precisely what RBV Theory anticipates will form the basis of a sustained competitive advantage, which is an internal resource optimization.

The result of the qualitative data collected from the interviews showed that structured processes and positive contextual factors play an important role in a successful lean management implementation. The interviewees continually emphasised the importance of key management support, training for employees and the gradual implementation of lean principles within the current operational systems. The participants emphasized that those implementation strategies should be well suited with contextual challenges like organization structure, market pressures, technological readiness etc. to be effective. This is consistent with the findings of Schwantz et al. (2023), which indicate that support from the leadership, employee participation, and training are key effective lean strategies that have a positive effect on the performance of an organisation. Moreover, Hassan and Pasha (2023) point out that organizational culture and unique contextual factors play a vital role in the effectiveness of these lean approaches, which was echoed by the managers interviewed.

Although the results of the interviews revealed some potential, the study results also showed that there are many challenges that often hinder the application of lean management, such as resistance to change, resource constraints, and cultural barriers. Inadequate technical skills and poor measurement of lean outcomes were reported by several respondents to delay implementation efforts. The obstacles are similar to those identified by Mwachari (2018) who cited the lack of regulatory control over the process and the challenge of getting rid of non-value adding processes as other challenges in lean implementation. In addition, Alaraj and Bakri (2019) report that the implementability of lean is greatly influenced by the contextual factors including implementability maturity which can be significantly limited due to some of the contextual factors like the resource constraints and organizational inertia.

To address these issues and achieve tangible results in terms of performance gains, the interview participants highlighted the importance of integrating sustainability issues, commitment and institutionalizing practices into lean management. Respondents explained that when lean becomes ingrained in corporate culture, it helps to increase employee engagement and ownership, making lean more than a fleeting initiative but a way of doing business. This is endorsed by Tidjoro and Barinua (2022) that continuous improvement and capacity utilization are the control mechanisms to be used for organizational long-term success and profitability. Finally, as Kunyoria (2018) determined in the Kenyan agro-processing context, when the lean components such as waste reduction and technology adoption are successfully institutionalised and nurtured by a continuous improvement culture, they turn into important and sustainable drivers of organizational performance, as strongly supported by the lean components insights gained from the firm managers.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The simple linear regression analysis confirmed the positive and strong relationship between lean management and performance of the multinational tea companies ($\beta = 0.825$ and $p < 0.001$). The model explained 68.1% of the variance in the performance of firms ($R^2 = 0.681$). The results show that, for each one-unit increase in lean management practices (in terms of waste reduction and work efficiency), overall firm performance increases by 0.903-unit. Therefore, the null hypothesis was strongly rejected, verifying that lean management is one of the key factors that contributes to both the operational and financial success of the companies studied.

The study also finds lean management to be the most important cost cutting strategy to improve performance in the Kenyan tea industry. Tea processing value chain which includes withering to drying is very vulnerable to waste of material and energy. Through waste reduction and work efficiency, firms can significantly reduce the production costs and yield in tea production. Lean management is more than a tool for operations, it is a strategic necessity. The empirical evidence substantiates that optimizing the internal resources and conducting continuous

process improvement is an essential element for maintaining competitiveness and profitability in the global tea market.

Multinational companies in both Bomet and Kericho, Kenya, need to make a shift from generic lean applications to very context-specific implementation strategies to meet the particular operational needs of the tea industry. In particular, the management should use a Value Stream Mapping (VSM) specific to the green leaf supply chain to remove wastes related to waiting and transportation, so that the most perishable leaf is moved from the plucking area to the withering troughs without loss of quality. In order to reduce the high energy costs in the sector, companies must implement 5S and Kaizen (Continuous Improvement) procedures directly in the factory, focusing on energy costs in the CTC (Crush, Tear, Curl) and drying processes. In addition, to overcome the pronounced seasonal labor variations and the high wages in the industry, the industry should have standardized work procedures and cross training of personnel and deploy the work force to various field operations or factory processing according to the seasons, strictly observe the "two leaves and a bud" plucking standard. Lastly, the use of visual management boards in processing areas to monitor the real-time data such as energy consumption per kg of made tea, and differences in daily yields. This will create a culture of accountability and make lean not just a project, but an operational culture that saves money.

Although this study has made contributions, there are distinct avenues for future research. The study only considered lean management as a cost reduction strategy and not other strategies such as outsourcing, value engineering and cost-benefit analysis, which in future studies should be included in a comparative study to be able to compare the effect of these strategies at the same time. Second, because the multinational companies were proprietary and confidential, the study was based on perceived performance measures, not on objective financial statement measures (such as audited profit margins, Return on Assets). There is a need to add objective financial metrics in the future studies using formal institutional cooperation. Third, the cross-sectional design is only capturing the relationship between lean and performance at one point in time, which means that cause and effect inferences cannot be made and that there is a need to conduct longitudinal studies to understand the relationship between lean and performance as the process of lean implementation progresses over the course of several years. Lastly, the lack of mediating variables reduces the understanding of the specific context challenges and contextual mechanisms of implementing lean.

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