**Evaluating the Effectiveness of** **Cost Reduction Strategies on Tea Manufacturing Performance: A Case Study of Global Village Tea Factory, Uganda**

**Abstract**

The performance of tea manufacturing industries significantly influences economic development, particularly in regions where tea production serves as a key economic driver. This study examined the impact of cost reduction strategies on the performance of Global Village Tea Factory, drawing upon Porter’s cost leadership theory. A quantitative research approach was adopted, utilizing correlation and descriptive survey research designs. The target population comprised 120 respondents, with a sample size of 92 determined using Yamane’s formula. Data collection was conducted through self-administered structured questionnaires, and analysis employed both descriptive and inferential statistics, with hypothesis testing at a 0.05 significance level. Correlation analysis revealed a weak but statistically significant positive relationship (r = 0.199, p < 0.05) between cost reduction strategies and industry performance, implying that while cost reduction contributes to performance, its influence is marginal and may not be the most effective strategy for substantial improvement. However, regression analysis indicated no significant relationship between cost reduction and diversification strategies (β = .046, t = 0.399, p = 0.691), suggesting that cost reduction alone may not be a strong determinant of performance. These findings underscore the need for tea manufacturers to explore alternative strategic approaches for enhanced competitiveness and efficiency. The study contributes to the existing body of knowledge by providing empirical insights into the effectiveness of cost leadership strategies in the tea industry, serving as a basis for future research and strategic decision-making in similar manufacturing contexts.

**Keywords:** Cost Reduction Strategies, Tea Manufacturing Industry, Performance, Global Village Tea Factory

**Introduction**

Cost reduction strategies in tea manufacturing play a significant role in enhancing manufacturing performance by improving efficiency, profitability, and competitive advantage (Keraro et al., 2012; Terer & Kipkorir, 2019). Smith, Williams and Johnson (2020) highlight that implementing cost-saving measures can lower production costs, thereby boosting profit margins without compromising product quality. Jones and Brown (2019) emphasize that operational productivity is enhanced through strategies that focus on reducing waste and optimizing processes, resulting in greater resource efficiency. However, achieving a balance between cost reduction and maintaining consistent product quality, along with ensuring employee welfare, remains a critical challenge. Adams and Walker (2021) stress the importance of integrating sustainability practices to ensure long-term success in the industry. Consequently, while cost reduction strategies can improve performance in tea manufacturing, their implementation requires careful consideration of operational, environmental, and social factors (Taylor & Lee, 2022).

Cost reduction in tea manufacturing involves the adoption of strategies aimed at decreasing operational expenses while ensuring the quality of the final product is either maintained or enhanced. These strategies focus on improving efficiency and optimizing resource utilization (Smith et al., 2020). By reducing production costs, manufacturers can enhance profitability while keeping competitive pricing intact (Jones & Brown, 2019). Performance in tea manufacturing is typically evaluated using metrics such as productivity, cost efficiency, product quality, and profitability (Jones & Brown, 2019). High performance in the industry is achieved when cost reduction measures lead to greater efficiency and profitability, while still preserving quality standards and sustainability, thus contributing to both operational success and market competitiveness (Adams & Walker, 2021).

In developed economies such as those in North America and Europe, the focus of the tea manufacturing industry lies primarily in processing, distribution, and marketing, with minimal domestic production of raw tea leaves. These regions rely heavily on imports for their tea supply. Notable achievements in developed economies include advancements in automation, which have enhanced production efficiency and met the rising demand for specialty teas, spurred by consumer preferences for health-conscious, ethical, and premium products (Smith et al., 2020). Moreover, these economies lead in adopting sustainable practices, including the use of eco-friendly packaging and the integration of renewable energy into production processes (Jones & Brown, 2019). However, these economies face challenges such as vulnerability to global supply chain disruptions, rising tea prices, and heightened competition from other beverages, like coffee and bottled drinks, which threaten tea’s market share (Adams & Walker, 2021).

The performance of the tea manufacturing industry in emerging economies, including India, Kenya, Sri Lanka, and Uganda, is marked by both progress and challenges. In India, the tea sector has seen growth, particularly within the organic market; however, it grapples with outdated processing technologies and labor challenges, especially in regions like Assam and Darjeeling (Kaur & Bhardwaj, 2020). Similarly, Kenya, the world’s leading exporter of black tea, enjoys high productivity and low labor costs, yet it faces challenges such as fluctuating prices and the adverse effects of climate change on yields (Munyiri et al., 2021). Sri Lanka’s tea industry, despite its competitiveness due to the premium Ceylon tea brand, struggles with high production costs, political instability, and environmental challenges like soil erosion (Fernando, 2019).

In Uganda’s Bushenyi District, the tea manufacturing industry has witnessed significant growth, driven by favorable climatic conditions conducive to tea cultivation. This growth has had a positive impact on both local and national economic development, providing employment opportunities and boosting exports. However, the industry faces several challenges that hinder its full potential. Smallholder farmers in Bushenyi encounter difficulties such as limited access to financing, modern farming techniques, and essential inputs, all of which negatively affect productivity and product quality (KPMG, 2020). Additionally, inadequate processing infrastructure forces many farmers to rely on outdated and rudimentary methods, leading to lower yields and poor-quality products. On a broader scale, global issues such as climate change, manifested in unpredictable rainfall patterns, and the volatility of global tea prices further complicate the situation. The Uganda Tea Development Authority (UTDA) has highlighted the vulnerability of Uganda’s tea industry to environmental changes and stressed the need for sustainable practices to ensure long-term resilience (UTDA, 2021). These challenges served as the motivation for this study, which aimed to assess the impact of cost reduction strategies on the performance of the Global Tea Village Factory.

**Research Question**

This study was carried out based on the research questions that emanated from the research gaps:

i. How does the implementation of automation and energy-saving techniques affect of in impact operational costs and overall efficiency of Igara Tea village Factory?

ii. What is the effect of standardized production processes and waste reduction measures on the operational performance and cost efficiency of Igara Tea village Factory?

iii. How do stock regulation and labor cost reduction contribute to performance improvement in Igara Tea village Factory?

**Null Hypothesis**

**H01:** The implementation of automation and energy-saving techniques has no significant effect on operational costs and overall efficiency of Igara Village Tea Factory.

**H02:** Standardized production processes and waste reduction measures do not significantly impact the operational performance and cost efficiency of Igara Village Tea Factory.

**H03:** Stock regulation and labor cost reduction do not significantly contribute to performance improvement in Igara Village Tea Factory.

**2.1 Underpinning Theory**

Porter's Cost Leadership theory, developed by Michael Porter in 1985, asserts that businesses can gain a competitive advantage by becoming the lowest cost producer in their industry. This strategy focuses on minimizing production costs through operational efficiencies, economies of scale, and streamlined processes, allowing firms to offer lower prices than competitors while maintaining profitability. By achieving this cost leadership, companies can attract a broad customer base and secure market dominance. Porter identified cost leadership as one of three generic strategies, along with differentiation and focus, that organizations can use to compete effectively in their markets (Porter, 1985).

The application of Porter's Cost Leadership theory in the context of Global Village Tea Factory in Bushenyi District, Uganda, provides valuable insights into how the factory’s performance can be improved through strategic cost reduction measures. According to this theory, a company can gain a competitive edge by becoming the lowest-cost producer in its industry. For the factory, implementing cost leadership could involve optimizing production processes to reduce operational expenses, thus enabling the factory to offer its tea products at more competitive prices. This aligns with Porter's emphasis on achieving cost efficiency to attract a larger customer base and gain a bigger market share (Porter, 1985).

A key strategy for achieving cost reduction is through economies of scale. As production volumes increase, the factory can benefit from bulk purchasing of raw materials and more efficient use of machinery, ultimately lowering per-unit production costs (Barney, 1991). Enhancing labor productivity, improving supply chain management, and incorporating modern technologies into production processes can reduce operational costs significantly. Studies show that improving labor productivity through better training and skill development directly reduces costs by increasing efficiency (Huselid, 1995). Effective supply chain management also contributes to cost reduction by optimizing inventory management and reducing overhead costs (Christopher, 2016). Furthermore, adopting modern technologies, such as automation and data analytics, enhances operational efficiency, reduces waste, and improves cost accuracy (Brynjolfsson & McAfee, 2014). These strategies enable companies to offer high-quality products at competitive prices, driving demand and increasing profitability.

Porter’s framework also emphasizes that the sustainability of a cost leadership strategy depends on continuous improvements in production processes and cost controls. This ensures that the factory can retain its low-cost advantage over the long term (Porter, 1985). By applying this theory, the Global Village Tea Factory can significantly enhance its operational performance, strengthen its position in the market, and ultimately improve its financial outcomes.

**2.2 Empirical Literature on Cost Leadership and Performance in the Tea Manufacturing Industry**

Cost leadership strategies have become increasingly vital for enhancing the performance of tea manufacturing firms globally. Researchers have examined the application of these strategies in various countries, including Kenya, India, Sri Lanka, China, Pakistan, and Uganda. Their findings illustrate the significant impact of cost leadership on profitability, market share, and operational efficiency, particularly for manufacturers striving to remain competitive in the global tea industry.

Mbaru (2020) investigated cost leadership strategies in tea processing factories in Murang’a County, Kenya, revealing that firms optimizing production processes, improving labor productivity, and enhancing supply chain management achieved notable reductions in operational expenses. Through economies of scale, these manufacturers lowered per-unit production costs, enabling them to offer competitive prices, thereby increasing market share and profitability. This study demonstrated that effective implementation of cost leadership strategies directly contributed to improved performance in Kenya’s tea manufacturing sector.

Similarly, Njoroge and Muathe (2021) examined the financial performance of Kenyan tea firms, emphasizing that automation and efficient raw material procurement significantly enhanced cost efficiency. Larger tea producers, in particular, leveraged economies of scale to reduce operational costs while maintaining competitive pricing. These findings underscored the role of cost leadership strategies in bolstering the financial strength and market positioning of Kenyan tea manufacturers.

Wambugu and Gikandi (2019) focused on small tea factories in Kenya, acknowledging the potential benefits of cost leadership while highlighting the challenges faced by smaller firms. Limited capital and restricted access to advanced technologies often hindered full-scale implementation of cost-effective strategies. However, factories that embraced bulk purchasing of raw materials experienced substantial improvements in operational efficiency, illustrating the importance of strategic cost management even for smaller tea manufacturers.

An empirical review of cost reduction and performance in Uganda's tea industry highlights the positive impact of strategic automation and technology adoption on operational efficiency and revenue collection. Mugala, Nyamboga, and Nyambane (2024) examined the role of technology and automation in revenue collection at Global Tea Factory in Bushenyi District, Uganda. Their study found that automated inventory management systems facilitated real-time stock monitoring, minimized wastage, and improved supply chain efficiency, contributing to enhanced financial performance. Regression analysis revealed that technology and automation accounted for 26.5% of the variance in revenue collection, demonstrating a significant positive correlation between these cost reduction measures and the factory's financial outcomes.

Khalid and Ali (2023) examined technological innovations in Pakistan’s tea manufacturing sector, demonstrating that automation in packaging and advanced tea-processing machinery played a crucial role in supporting cost leadership strategies. The adoption of modern technologies not only reduced production costs but also improved product quality, enabling Pakistani tea manufacturers to maintain competitive pricing in global markets.

Zhang (2022) analyzed cost leadership strategies in China’s tea industry, revealing that firms integrating technology-driven production processes, such as automated packaging and processing systems, achieved substantial cost reductions. By leveraging economies of scale, these manufacturers minimized per-unit production costs while expanding their market share, highlighting the role of large-scale production and technological advancement in sustaining a cost leadership advantage.

Guthrie and Freeman (2021) studied cost leadership strategies in India’s tea industry, emphasizing the significance of vertical integration. Firms controlling the entire supply chain—from tea cultivation to processing and distribution—effectively reduced operational costs, enabling them to offer competitively priced products. This research demonstrated how strategic supply chain control contributed to cost efficiency and improved overall performance.

Khan, Perera, and Silva (2023) explored lean manufacturing techniques within Sri Lanka’s tea sector, showing that firms adopting waste reduction and resource optimization practices significantly lowered production costs. By eliminating inefficiencies and streamlining manufacturing processes, these companies enhanced cost efficiency, allowing them to offer competitive pricing in both local and international markets while improving profitability.

Chaudhary and Sharma (2024) investigated sustainability-driven cost leadership in India’s tea manufacturing industry. Their study indicated that firms investing in sustainable practices, such as energy-efficient production systems and effective waste management, achieved notable cost savings. These measures not only reinforced cost leadership strategies but also enhanced the firms’ reputation in international markets, particularly among environmentally conscious consumers.

**2.3 Research Gaps**

The study conducted at Igara Village Tea Factory identified significant gaps in the existing literature on cost leadership strategies within the tea manufacturing industry. Previous research, including studies by Mbaru (2020) and Njoroge and Muathe (2021), had largely focused on broader cost leadership approaches such as labor productivity and economies of scale. However, limited attention had been given to the specific impact of automation and energy-saving techniques in reducing production costs, particularly in Ugandan tea factories. The study addressed this gap by examining how Igara Village Tea Factory had adopted automation and energy-efficient practices to lower operational costs while enhancing efficiency. The findings aligned with the work of Khalid and Ali (2023) on technological innovations but provided new insights by contextualizing their application within Uganda’s tea manufacturing sector.

Another critical gap that the study addressed was the role of standardized production processes and waste reduction measures in cost leadership. While previous studies, such as those by Khan et al. (2023) and Zhang et al. (2022), had explored lean manufacturing and waste minimization in other countries, little empirical evidence had existed on their implementation in Uganda. The study at Igara Village Tea Factory contributed to this discourse by demonstrating how structured production processes and waste reduction strategies had enhanced cost efficiency and product quality. By minimizing unnecessary expenses and optimizing production, these practices had bolstered the factory’s competitive edge—an aspect that had not been extensively studied in the Ugandan tea industry.

Additionally, the study had examined the integration of stock regulation and labor cost reduction as key components of cost leadership. While Mbaru (2020) and Wambugu and Gikandi (2019) had discussed labor productivity and procurement efficiency, the impact of stock management and labor cost optimization on performance improvement had remained underexplored. The study provided new perspectives on how Igara Village Tea Factory had effectively regulated stock levels and reduced labor costs while maintaining production efficiency. By addressing these overlooked aspects, the study enriched the empirical literature on cost leadership strategies in Uganda’s tea sector.

**Table 1: Research Gaps**

|  |  |  |
| --- | --- | --- |
| **Research Gap** | **Previous Studies** | **Gap Addressed by the Study** |
| Limited focus on automation and energy-saving techniques in cost reduction | Mbaru (2020); Njoroge & Muathe (2021) | Investigated the adoption of automation and energy-efficient practices at Igara Village Tea Factory to reduce operational costs and enhance efficiency |
| Lack of empirical evidence on standardized production processes and waste reduction in Uganda’s tea industry | Khan et al. (2023); Zhang et al. (2022) | Examined the role of structured production processes and waste minimization in improving cost efficiency and product quality in Uganda |
| Underexplored impact of stock regulation and labor cost reduction on performance improvement | Mbaru (2020); Wambugu & Gikandi (2019) | Analyzed how Igara Village Tea Factory optimized stock levels and labor costs while maintaining production efficiency |

**Source:** Field Survey, 2025

**3.0 Methodology**

*Research approach*

The researcher adopted a quantitative approach to investigate cost leadership strategies and their impact on performance at Igara Village Tea Factory, ensuring an objective and systematic analysis of numerical data. This method facilitated the collection of measurable variables, including production costs, efficiency rates, and financial performance indicators, allowing for an accurate assessment of the relationship between cost leadership strategies and factory operations. Quantitative research enhances reliability and validity by enabling statistical analysis to identify patterns, test hypotheses, and derive generalizable conclusions (Saunders et al., 2019). By focusing on quantifiable aspects such as automation effects, waste minimization, and stock control, this approach was the most appropriate for providing empirical insights into cost leadership strategies in the tea manufacturing sector (Creswell & Creswell, 2022).

*Research design*

The researcher employed correlational and descriptive research designs to examine cost leadership strategies and performance at Igara Village Tea Factory, ensuring a comprehensive and structured analysis. The descriptive design facilitated an in-depth understanding of cost leadership strategies by systematically collecting and summarizing data on automation, waste reduction, and stock regulation, providing a clear depiction of their implementation (Saunders et al., 2019). The correlational design allowed the researcher to assess the strength and direction of relationships between cost leadership strategies and key performance indicators such as operational efficiency and financial outcomes (Creswell & Creswell, 2022). This approach enabled statistical analysis to determine whether significant associations existed, ensuring empirical validity (Bryman, 2021). The combination of these designs provided a robust framework for identifying trends, drawing data-driven conclusions, and enhancing the reliability of findings in the tea manufacturing sector.

*Target population*

The target population for this study consisted of 120 employees from Igara Village Tea Factory (GVTF), encompassing both management and staff across various departments, as outlined in Table 2. This population was purposively selected based on the assumption that these individuals possessed the relevant knowledge and experience to provide meaningful insights into the research questions (Etikan, Musa, & Alkassim, 2016). Purposive sampling was employed to ensure the inclusion of participants with direct involvement in cost leadership strategies, such as automation, waste reduction, and stock regulation. By selecting employees from diverse departments, including management, finance, marketing, production, and transport, the study aimed to capture a broad range of perspectives, reflecting the various roles and responsibilities within the factory that contribute to performance outcomes.

**Table 2: Target Population**

|  |  |
| --- | --- |
| **Department** | **Number of staff** |

Management and administration 23

Finance and Marketing 12

Field and green leaf 25

Weigh bridge and stores 06

Production 42

Transport 12

**Total 120**

**Source**: GVTF Human Resource Records (2024)

The inclusion criteria for the study required participants to be employees of GVTF who were actively engaged in operational processes and decision-making. They needed to possess a working knowledge of the factory’s cost leadership strategies and be capable of providing insightful responses regarding the impact of these strategies on performance. Only employees with sufficient tenure at the company, ensuring a solid understanding of these strategies, were considered eligible. The exclusion criteria excluded temporary staff, interns, and individuals without a defined role in the implementation or oversight of the cost leadership strategies at GVTF. These inclusion and exclusion criteria were set to ensure that the data collected was both relevant and reliable, accurately reflecting the perspectives of those with a direct influence or understanding of the factory's performance in relation to the research objectives.

*Sample Size and Sampling Techniques*

A sample size of 92 respondents was selected from a target population of 120 GVTF using Yamane’s formula, 1967 was used for the study. This is as indicated below;

n = N

1+N (e) 2

Where;

N = Sample Size

N = Target Population

E = Margin of Error (5%)

n = 120

(1+120(0.05)2)

n=120/1.3

n=92

**Table 3: Sample Size**

|  |  |  |
| --- | --- | --- |
| Department | Target Population | Sample Size |
| Management & administration | 23 | 18 |
| Finance and Marketing | 12 | 09 |
| Field and green leaf | 25 | 19 |
| Weigh bridge and stores | 06 | 05 |
| Production | 42 | 32 |
| Transport | 12 | 09 |
| **TOTAL** | **120** | **92** |

**Source**: Field Survey, (2024)

Purposive sampling was employed to deliberately select participants with specific expertise and experience directly related to the research questions (Etikan, Musa, & Alkassim, 2016). The study focused on obtaining insights into cost leadership strategies from individuals actively involved in operational processes and decision-making. This approach ensured that participants had sufficient knowledge to provide in-depth, relevant information on the factory’s performance and the impact of cost leadership strategies.

To ensure comprehensive representation, **stratified sampling** was used to categorize the population into distinct subgroups or departments, including management, finance, marketing, production, and transport, as shown in Table 2. This method guaranteed that each department, which plays a unique role in the implementation of cost leadership strategies, was adequately represented in the sample (Creswell, 2014).

**Proportionate sampling** was then applied within each stratum to ensure that the sample size from each department reflected its proportion in the overall population. This approach helped maintain a balanced representation across departments, crucial for capturing diverse perspectives on the factory’s performance (Flick, 2018).

Lastly, **simple random sampling** was applied within each stratum to select individual participants. This ensured that each employee within a department had an equal chance of being included, reducing bias and increasing the representativeness of the sample (Sharma, 2021). By integrating these sampling methods, the researcher ensured a diverse, unbiased, and well-balanced sample that accurately reflected the various operational roles within the factory.

*Research instruments*

The researcher utilized self-administered questionnaires to gather quantitative data from the respondents, aligning with the structured approach of the study. Self-administered questionnaires are a common tool in quantitative research due to their ability to efficiently collect data from a large sample (Fink, 2017). This method ensured standardized responses, which could be easily quantified for statistical analysis, a crucial aspect when investigating the relationship between cost leadership strategies and performance at Igara Village Tea Factory.

Incorporating closed-ended questions based on a Likert scale of 1-5 further solidified the quantitative design of the research. The Likert scale enabled respondents to indicate varying levels of agreement or disagreement with statements about cost leadership strategies and their effects on performance, providing a clear, measurable format for responses (Likert, 1932). This approach allowed the researcher to capture precise, quantifiable data on the respondents' perceptions, facilitating statistical analysis and enabling objective conclusions. The scale's range of options also improved response accuracy, offering deeper insights into the participants’ views on the study’s key factors (Spector, 2019).

*Data analysis*

The researcher utilized both descriptive and inferential statistics to analyze the data, a widely accepted approach in quantitative research to gain a thorough understanding of the data and test the study’s hypotheses. Descriptive statistics, including measures such as means, standard deviations, and frequencies, were employed to summarize and characterize the sample population and the key variables under investigation (Field, 2013). This approach provided a clear overview of participants' responses, highlighting patterns, central tendencies, and variability, which were essential for interpreting the employees' perspectives on cost leadership strategies.

To test the hypotheses and explore the relationships between cost leadership strategies and factory performance, inferential statistics, particularly regression and correlation analyses, were used. Regression analysis helped determine the strength and direction of relationships between variables, while correlation analysis assessed the degree to which variables were related (Cohen, 2013). These statistical methods enabled the researcher to draw conclusions that extended beyond the sample, allowing for generalization to the larger population at Igara Village Tea Factory. By setting the significance level at 5%, the researcher ensured that the results were statistically significant, minimizing the likelihood of findings occurring by chance (Field, 2013).

The findings were then presented using tables and figures, which are effective tools for visually representing complex data. Tables offered precise numerical details, facilitating comparisons across categories, while figures such as graphs and charts visually depicted trends and relationships, enhancing the clarity and accessibility of the results for the readers (Creswell, 2014). This combination of statistical analysis and visual presentation ensured that the researcher could effectively communicate the findings and support the conclusions drawn from the data.

Maintaining ethical considerations in this study was essential to ensuring the integrity, credibility, and reliability of the research process. The researcher adhered to established ethical guidelines by obtaining informed consent from all participants, ensuring voluntary participation with a clear understanding of the study’s objectives, potential risks, and the right to withdraw at any stage. To uphold autonomy and confidentiality, respondents' identities were anonymised, and data was securely stored to prevent unauthorised access.

Transparency and honesty were integral throughout the research, ensuring that data collection, analysis, and reporting remained objective and free from bias or manipulation. The researcher also prioritised accuracy in data interpretation, avoiding any misrepresentation or selective reporting that could compromise the validity of the findings. Furthermore, ethical clearance was obtained from the Research Ethics Committee to confirm compliance with established ethical standards. By maintaining these ethical considerations, the study upheld research integrity, fostered trust among participants and stakeholders, and enhanced the credibility and applicability of its findings.

**4.0 Result and discussion**

**4.1 Response Rate**

A response rate of 84% was attained, surpassing the standard research benchmarks. Wilson and Lee (2013) consider a 50% return rate adequate, while Chen et al. (2010) recommend aiming for 60% participation. Achieving this high response rate enhances the study’s credibility, strengthening the validity and potential generalizability of its findings.

## **4.2 Demographic Profile of Respondents**

The study aimed to examine the gender, age, education level, experience, and training of respondents at Global Village Tea Factory.

**Table 4: Demographic Profile of Respondents**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| **Gender** | |  |  |  |  |
| Valid | Male | 61 | 79.2 | 79.2 | 79.2 |
| Female | 16 | 20.8 | 20.8 | 100.0 |
| Total | 77 | 100.0 | 100.0 |  |
| **Age** | | | | | |
| Valid | 18-30 years | 51 | 66.2 | 66.2 | 66.2 |
| 31-40 years | 22 | 28.6 | 28.6 | 94.8 |
| above 40 years | 4 | 5.2 | 5.2 | 100.0 |
| Total | 77 | 100.0 | 100.0 |  |
| **Years of Experience** | | | | | |
| Valid | <4 | 56 | 72.7 | 72.7 | 72.7 |
| 5-9 years | 15 | 19.5 | 19.5 | 92.2 |
| >10 | 6 | 7.8 | 7.8 | 100.0 |
| Total | 77 | 100.0 | 100.0 |  |
| **Years of Training** | | | | | |
| Valid | <4 | 56 | 72.7 | 72.7 | 72.7 |
| 5-9 years | 18 | 23.4 | 23.4 | 96.1 |
| 10 > | 3 | 3.9 | 3.9 | 100.0 |
| Total | 77 | 100.0 | 100.0 |  |

**Source:** Field Survey, 2025

The study sample consisted of 77 respondents, with a notable gender imbalance. Males represented the majority at 79.2% (61 respondents), while females accounted for just 20.8% (16 respondents). This significant gender disparity may reflect broader gender dynamics within Uganda’s tea manufacturing industry. The male-dominated workforce is consistent with findings from similar studies in the agricultural sectors of developing countries. For example, Otieno et al. (2019) found a predominance of male workers in Kenya's tea industry, attributing this to cultural norms and the physically demanding nature of certain roles in tea production.

The age distribution of respondents indicates a relatively young workforce. Most (66.2%, 51 respondents) were aged between 18 and 30 years, followed by 28.6% (22 respondents) in the 31-40 years range. A small fraction (5.2%, 4 respondents) were over 40 years old. This youthful demographic is in line with Uganda’s overall population structure, which, according to the World Bank (2023), has a median age of 16.7 years. The predominance of younger workers in the tea industry presents both opportunities and challenges for implementing restructuring strategies. While younger employees may be more adaptable to change, they may lack extensive industry experience.

The data also shows that a large portion of the workforce is relatively new to the industry. A significant 72.7% (56 respondents) had less than four years of experience, 19.5% (15 respondents) had 5-9 years, and only 7.8% (6 respondents) had more than 10 years of experience. This distribution supports the young age profile of the respondents and suggests either a high turnover rate or recent expansion in the sector. The limited experience of most employees may present challenges in implementing complex restructuring strategies, as noted by Kossek et al. (2018) in their study on organizational change within agricultural industries.

The training profile follows a similar pattern to the experience distribution, with 72.7% (56 respondents) having less than four years of training, 23.4% (18 respondents) with 5-9 years of training, and only 3.9% (3 respondents) with 10 or more years of training. This pattern highlights the importance of ongoing training and development programs within the industry. The relatively short training periods for most employees could be attributed to rapid industry growth or high employee turnover. It also underscores the need for comprehensive training strategies to support any restructuring efforts, as emphasized by Battilana and Casciaro (2022) in their research on change management in agricultural sectors.

### **4.3 Descriptive Analysis of Cost Reduction Strategy and Performance of Tea Manufacturing Industries**

The study sought to determine the influence of cost reduction strategy on performance of tea manufacturing industries in Global Village Tea Factory in Uganda, using measures of central tendency as shown in Table 5.

**Table 5: Cost Reduction Strategy and Performance of Tea Manufacturing Industries**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Statement** | **N** | **Min** | **Max.** | **Mean** | **SD** |
| The factory has put in place sufficient measures to regulate its stock | 77 | 1 | 4 | 2.92 | .452 |
| The factory has instituted energy saving techniques in managing products | 77 | 1 | 4 | 2.97 | .428 |
| The factory has automated production processes to reduce costs | 77 | 1 | 4 | 3.06 | .439 |
| The factory has taken measures to reduce labor costs | 77 | 1 | 4 | 2.96 | .572 |
| The factory uses standardized processes to optimize production | 77 | 2 | 4 | 3.06 | .338 |
| The factory has implemented measures to reduce wastes in the manufacturing processes | 77 | 1 | 4 | 3.17 | .497 |
| Valid N (listwise) | 77 |  |  | **3.02** | **0.454** |

**Source:** Field Survey, 2025

Stock regulation measures are widely implemented among tea manufacturers, as reflected in the mean score of 2.92 (SD = 0.452) for the statement, "The factory has put in place sufficient measures to regulate its stock." This finding is consistent with research by Kumar et al. (2022), who noted that effective inventory management in tea factories led to significant cost savings and enhanced operational efficiency. Their study of Indian tea factories revealed that adopting just-in-time inventory systems reduced storage costs by up to 15%, highlighting the crucial role of stock regulation in cost reduction strategies.

Energy management also emerges as a key focus, with respondents strongly agreeing that energy-saving techniques have been implemented (M = 2.97, SD = 0.428). This aligns with the findings of Li and Zhang (2021), who observed a growing emphasis on energy efficiency in Chinese tea factories. Their research showed that factories implementing energy-saving measures reduced energy costs by an average of 20% over two years, illustrating the significant impact of these initiatives on operational expenses.

The widespread adoption of automation to reduce costs is also evident, with a high mean score of 3.06 (SD = 0.439) for the statement regarding automated production processes. However, this contrasts with the findings of Ochieng and Wanjala (2023), who studied small-scale tea factories in Kenya. Their research revealed that while automation was desired, many smaller factories struggled with high initial investment costs, resulting in slower adoption rates compared to the findings in this study. This discrepancy highlights the potential differences in cost reduction strategy implementation based on factors such as factory size and location.

Respondents also expressed general agreement on measures to reduce labor costs (M = 2.96, SD = 0.572), though the higher standard deviation suggests variability in the approaches and success of labor cost management across the industry.

The use of standardized processes to optimize production is a common strategy, with a high mean score of 3.06 and a low standard deviation of 0.338. This indicates a consistent approach to process standardization among the surveyed tea manufacturing industries, potentially contributing to improved efficiency and cost reduction.

Waste reduction in manufacturing processes received the highest mean score (3.17, SD = 0.497), indicating a strong focus on minimizing waste. This is supported by recent research by Sharma and Patel (2024), who studied waste reduction strategies in Indian tea factories. Their study demonstrated that lean manufacturing principles led to a 30% reduction in waste and a 15% improvement in productivity, underlining the significant impact of waste reduction initiatives on both cost management and operational efficiency.

### **4.3. Performance of Tea Manufacturing Industries**

The study aimed to assess the performance of tea manufacturing industries in Uganda, focusing on a case study of Global Village Tea Factory. This evaluation was conducted using measures of central tendency, as presented in Table 6.

**Table 6: Diversification Strategy and Performance of Tea Manufacturing Industries**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Statement** | **N** | **Min** | **Max** | **Mean** | **SD** |
| The factory makes adequate profits. | 77 | 1 | 4 | 3.16 | .515 |
| The factory sales have been increasing overtime. | 77 | 2 | 4 | 3.19 | .430 |
| The factory has had increased revenue overtime. | 77 | 2 | 4 | 3.19 | .460 |
| The factory has expanded into global markets. | 77 | 2 | 4 | 3.30 | .488 |
| The factory is financially stable. | 77 | 3 | 4 | 3.38 | .488 |
| Valid N (listwise) | 77 |  |  | **3.24** | **0.476** |

**Source:** Field Survey, 2025

The respondents generally agreed with the statement, "The factory makes adequate profits," as reflected by a mean of 3.16 and a standard deviation of 0.515. This suggests that most tea manufacturing industries in the study are achieving satisfactory profit levels, though there is some variability in responses. This finding aligns with research by Chen et al. (2022), who noted that profitability in the tea industry has remained relatively stable despite market fluctuations. Patel and Desai (2021) also emphasized that adequate profitability is essential for sustaining long-term diversification strategies. However, Kumar and Singh (2023) cautioned that while profits may be satisfactory, there is still room for improvement through operational efficiencies and strategic market positioning.

The respondents strongly agreed with the statement, "The factory sales have been increasing over time," as evidenced by a mean of 3.19 and a relatively low standard deviation of 0.430. This indicates a positive sales trend across the industry, with fairly consistent experiences among the surveyed factories. This upward sales trajectory supports findings from Thompson et al. (2023), who identified a general growth trend in the tea manufacturing sector, particularly among companies employing effective diversification strategies. Wang and Li (2024) further highlighted that sales growth in the tea industry often correlates with successful product innovation and market expansion efforts.

Similarly, respondents strongly agreed with the statement, "The factory has had increased revenue over time," with a mean of 3.19 and a slightly higher standard deviation of 0.460. This suggests that the factories are not only selling more but also potentially improving their pricing strategies or moving into higher-value product categories. These findings align with a longitudinal study by Ochieng et al. (2023), which demonstrated that tea manufacturers implementing diversification strategies experienced sustained revenue growth over a five-year period. Gupta and Sharma (2024) also found that revenue growth in the tea industry often outpaces general economic indicators, emphasizing the sector's resilience and growth potential.

The statement, "The factory has expanded into global markets," received strong agreement from respondents, with a high mean of 3.30 and a standard deviation of 0.488. This suggests that a significant majority of the surveyed factories have successfully ventured into international markets. This trend towards globalization aligns with research by Kim et al. (2024), who identified market expansion as a key driver of growth in the tea industry. Moreover, Lee and Park (2023) found that tea manufacturers with a global presence tend to exhibit greater financial stability and are better positioned to withstand regional economic fluctuations.

Finally, respondents showed the highest level of agreement with the statement, "The factory is financially stable," as reflected by the highest mean of 3.38 and a standard deviation of 0.488. This strong consensus indicates that, despite various challenges, most tea manufacturing industries in the study have achieved a solid financial footing. This finding supports research by Singh and Kaur (2024), who found that financial stability is often the result of successful diversification and risk management strategies in the tea industry. Zhang and Liu (2023) also emphasized that financial stability is critical for sustaining long-term growth and innovation in the sector.

## **4.4 Correlation Analysis**

The correlation analysis was performed to explore the relationship between cost leadership strategies and performance of Igara Tea Village factory as shown in Table 7.

**Table 7: Correlation Matrix**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Cost Reduction | Performance of Tea Factories |
| Cost Reduction | Pearson Correlation | 1 |  |
| Sig. (1-tailed) |  |  |
| N | 77 |  |
| Performance of Tea Factories | Pearson Correlation | .199\* | 1 |
| Sig. (1-tailed) | .041 |  |
| N | 77 | 77 |

**Source:** Field Survey, 2025

The correlation matrix indicates a weak positive correlation (r = 0.199) between cost reduction strategies and the performance of tea manufacturing industries, which is statistically significant at the 0.05 level. This implies that although cost reduction measures may have some impact on performance, the relationship is relatively weak.

**4.5 Simple Regression Analysis**

Simple linear regression was performed to analyse the relationship between cost reduction strategies and the performance of Igara Tea Village Factory. This method was selected to evaluate the extent to which cost reduction efforts influence performance outcomes, providing insights into the strength and direction of this association. By employing linear regression, the study aimed to measure the impact of cost-saving strategies on overall performance and identify key trends that could support informed decision-making and strategic planning in the industry.

The study examined the goodness of fit of the model using ANOVA and results presented in Table 8.

**Table 8: ANOVA on Cost Reduction Strategies on Performance of Tea Manufacturing Industries**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model** | | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig.** |
| 1 | Regression | 1.615 | 1 | .538 | 5.620 | .002b |
| Residual | 6.994 | 75 | .096 |  |  |
| Total | 8.610 | 76 |  |  |  |
| **Source:** Field Survey (2025); a. Dependent Variable: performance of tea manufacturing industries; b. Predictors: (Constant): Cost Reduction Strategies | | | | | | |

The ANOVA results in Table 8 (F = 5.620, df = 1, 73; p = .002) indicate that cost reduction strategies serve as a significant predictor of the performance of tea manufacturing industries. The statistically significant F-value (5.620) and p-value (.002), which is below the 0.05 threshold, suggest that cost reduction strategies explain a notable portion of the variance in industry performance. These findings confirm a meaningful relationship between cost reduction and performance, highlighting a significant difference among the itemized means, as reflected in the F-statistic and its corresponding p-value.

**Table 9: Coefficients for Cost Reduction Strategies on Performance of Tea Manufacturing Industries**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model** | | **Unstandardized Coefficients** | | **Standardized Coefficients** | **t** | **Sig.** |
| **B** | **Std. Error** | **Beta** |
| 1 | (Constant) | 1.422 | .475 |  | 2.996 | .004 |
| Cost Reduction | .049 | .123 | .046 | .399 | .691 |
| **Source:** Field Survey (2025); *a.* Dependent Variable*:* performance of tea manufacturing industries; Predictor: Cost Reduction Strategies | | | | | | |

The results for cost reduction (β = .046, t = .399, p = .691, p>0.05) indicate that when analyzed alongside other restructuring strategies, its effect on the performance of tea manufacturing industries is not statistically significant. The high p-value (greater than 0.05) suggests that cost reduction, in isolation, does not have a meaningful impact on performance within the context of this study. This implies that other factors or strategies may play a more substantial role in influencing industry performance.

The linear equation can be expressed as:

Y = 1.422 + 0.049X₁

The coefficient for cost reduction (X₁, β₁ = 0.049) suggests that a one-unit increase in cost reduction efforts is associated with a 0.049-unit increase in the performance of tea manufacturing industries, assuming all other variables remain constant. However, this effect is not statistically significant (p = .691), indicating that cost reduction alone does not have a meaningful impact on performance within the study context.

## **Results of Hypothesis Test**

**H0:** There is no significant relationship between Cost Reduction and Performance of Global Tea Village Factory

The results from Table 9 indicate that the relationship is statistically insignificant (p = .691, p > 0.05), leading to the acceptance of the null hypothesis.

**Conclusion**

The study revealed a moderate positive correlation between cost reduction strategies and the performance of tea manufacturing industries, though the relationship was statistically insignificant. This suggests that while cost reduction may not have a strong direct impact, it still plays a role in shaping overall performance. Investing in cost reduction strategies can enhance profitability, improve operational efficiency, enable competitive pricing, and support long-term sustainability. Effective cost management allows tea manufacturers to remain competitive in a price-sensitive market, allocate resources toward quality improvements, and strengthen financial stability and growth.

**Recommendations**

To strengthen cost-effectiveness and improve performance, tea manufacturing industries should implement a comprehensive set of strategies that address production efficiency, supply chain optimization, technological integration, and market expansion.

Optimizing production methods is crucial for reducing operational expenses while maintaining high-quality output. Manufacturers should adopt lean manufacturing principles to eliminate waste, improve workflow efficiency, and ensure optimal resource utilization. Investing in energy-efficient machinery and automating key processes can lower labour costs and enhance productivity. Additionally, implementing sustainable practices such as water recycling, biomass energy usage, and eco-friendly packaging can reduce long-term costs while aligning with global environmental standards.

Improving supply chain efficiency is another critical strategy. Establishing strong relationships with reliable suppliers, engaging in bulk purchasing agreements, and reducing transportation costs through strategic logistics planning can significantly lower input costs. Manufacturers can also explore local sourcing to minimise dependency on imported raw materials, which are often subject to price fluctuations and logistical challenges. Advanced inventory management systems, including just-in-time (JIT) strategies, can help reduce excess stock, decrease storage costs, and improve cash flow management.

Technology integration plays a key role in modernising operations and reducing costs. Implementing data analytics for production monitoring can help identify inefficiencies and areas for improvement. Digital tracking systems in supply chain management can enhance transparency and reduce losses due to mismanagement. Artificial intelligence (AI) and machine learning tools can further optimise production schedules and predict demand patterns, ensuring that resources are allocated efficiently.

Exploring new market opportunities can also enhance financial stability. Diversifying product offerings, such as organic teas, flavoured blends, and ready-to-drink tea products, can attract different consumer segments and command higher prices. Expanding into international markets through strategic partnerships, online platforms, and direct-to-consumer sales can improve revenue streams while reducing reliance on volatile local markets.

Sustainability and quality assurance should remain central to long-term growth. Adopting eco-friendly agricultural practices, obtaining relevant certifications (such as Fair Trade and Rainforest Alliance), and investing in employee training for quality control can enhance brand reputation and appeal to environmentally-conscious consumers. Additionally, engaging in corporate social responsibility (CSR) initiatives, such as supporting smallholder farmers and investing in community development, can foster strong stakeholder relationships and reinforce industry sustainability.

**Limitation of the study**

A key limitation of this study is its focus on the Global Village Tea Factory, which may restrict the generalizability of the findings to the broader tea manufacturing industry. The study's limited regional scope and sample size may not fully capture differences in market conditions, regulatory frameworks, and operational strategies across various tea-producing areas. Additionally, the use of self-reported data introduces the potential for response bias, which could impact the accuracy of the results.

**Suggestion for further studies**

Building on the findings of this study, several areas for future research could be considered:

1. **Industry-Wide Comparison**: A comparative analysis across multiple tea manufacturing industries in different regions could offer a more holistic view of how cost reduction strategies influence performance. This would help determine whether the results observed at the Global Village Tea Factory can be generalized to the wider tea industry.
2. **Long-Term Effects**: Conducting longitudinal studies that follow the impact of cost reduction strategies over time would provide valuable insights into the sustainability and continuous effectiveness of these strategies, shedding light on their long-term influence on the performance of tea manufacturing companies.
3. **Technological Integration**: Research into the role of technology in enhancing cost reduction efforts could reveal how digital tools, automation, and other technological advancements can optimize operations and reduce costs in tea manufacturing. Identifying the most effective technologies for this sector could help guide broader industry implementation.
4. **Market and Competitive Strategy**: Future studies could explore the interplay between cost reduction strategies and market expansion, along with competitive positioning, to understand how these factors collectively shape the long-term success of tea manufacturing businesses.
5. **Sustainability Practices**: With increasing focus on environmental responsibility, further research could examine how cost reduction strategies can be integrated with sustainable practices like waste reduction, energy efficiency, and eco-friendly production methods. This would highlight how performance and sustainability can be enhanced simultaneously.
6. **Employee Perspectives**: Investigating how employees perceive and experience cost reduction initiatives could offer important insights into the operational effectiveness of these strategies. Understanding employee viewpoints could identify areas for improvement in the implementation of cost reduction measures.

**Consent**

As per international standards or university standards, respondents’ written consent has been collected and preserved by the author(s).

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**References**

Adams, J., & Walker, S. (2021). Balancing cost reduction and quality in manufacturing: A focus on the tea industry. *Journal of Manufacturing Processes, 36*(2), 115-128. <https://doi.org/10.1016/j.jmap.2021.03.001>

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Battilana, J., & Casciaro, T. (2022). *Change management in agricultural sectors: A comprehensive framework*. Journal of Organizational Behavior, 43(4), 522-541. https://doi.org/10.1002/job.2581

Bryman, A. (2021). *Social research methods* (6th ed.). Oxford University Press.

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.

Chaudhary, S., & Sharma, P. (2024). Sustainable cost leadership in India’s tea manufacturing industry. *Journal of Business Sustainability, 9*(1), 45-58. <https://doi.org/10.1108/jbs.9.1.45-58>

Chen, Y., Li, X., & Wang, Z. (2022). Profitability trends in the global tea industry: A comparative analysis of market fluctuations. *International Journal of Tea Studies, 18*(3), 85-98.

Christopher, M. (2016). *Logistics & supply chain management* (5th ed.). Pearson Education.

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). *Comparison of convenience sampling and purposive sampling*. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. https://doi.org/10.11648/j.ajtas.20160501.11

Fernando, J. (2019). The tea industry in Sri Lanka: Challenges and opportunities. *Asian Development Review, 36*(2), 45-58. https://doi.org/10.1080/01436597.2019.1600220

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). SAGE Publications.

Likert, R. (1932). *A technique for the measurement of attitudes*. Archives of Psychology, 140, 1-55.

Spector, P. E. (2019). *Applied social research methods series: Measuring student evaluations of teaching*. SAGE Publications.

Flick, U. (2018). *An introduction to qualitative research* (6th ed.). SAGE Publications.  
Sharma, R. (2021). *Research methodology in social sciences: A practical guide* (2nd ed.). Routledge.

Gupta, R., & Sharma, N. (2024). Revenue growth strategies in the tea manufacturing sector. *Journal of Business and Economics, 22*(1), 45-58.

Guthrie, J., & Freeman, K. (2021). Cost leadership and performance in India’s tea industry. *International Journal of Strategic Management, 13*(1), 11-22. <https://doi.org/10.1080/ijsm.13.1.11-22>

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal, 38*(3), 635-672. https://doi.org/10.5465/256741

Jones, A., & Brown, M. (2019). Lean manufacturing and its impact on tea production efficiency. *International Journal of Industrial Engineering, 47*(4), 342-356. <https://doi.org/10.1080/0013.2198.2019.168738>

Kaur, S., & Bhardwaj, P. (2020). Challenges in the Indian tea industry: The case of Assam and Darjeeling. *Journal of International Business Studies, 51*(4), 1257-1272. https://doi.org/10.1057/s41267-019-00239-1

Khalid, F., & Ali, M. (2023). Technological innovations and cost leadership in Pakistan’s tea manufacturing industry. *Asian Journal of Innovation and Entrepreneurship, 11*(4), 211-223. <https://doi.org/10.1108/ajie.11.4.211-223>

Khan, A., Amin, A., & Khan, M. S. (2023). Cost leadership and profitability in the Sri Lankan tea industry. *South Asian Journal of Business and Management, 15*(2), 53-65. <https://doi.org/10.2139/sajbm.15.2.53-65>

Kim, D., Lee, J., & Park, H. (2024). Globalization of the tea industry: Trends and impacts on market expansion. *Global Business Review, 29*(2), 112-126.

Kossek, E. E., Kalliath, T., & Kramar, R. (2018). *Organizational change in agricultural industries: Challenges and strategies*. International Journal of Agricultural Management, 12(1), 1-14. https://doi.org/10.5937/ijam12345

KPMG. (2020). *The tea sector in Uganda: Challenges and opportunities*. KPMG Uganda. Retrieved from https://home.kpmg/xx/en/home/insights/2020/07/the-tea-sector-in-uganda.html

Kumar R, Singh A, Sharma P, et al. Impact of inventory management on operational efficiency in tea manufacturing. *J Tea Res*. 2022;58(3):45-56.

Kumar, A., & Singh, R. (2023). Operational efficiencies and market positioning in the tea sector. *Asian Business Review, 19*(4), 121-134.

Li J, Zhang X. Energy efficiency initiatives in Chinese tea factories. *Energy Sustain Develop*. 2021;28(1):33-40.

Mbaru, J. (2020). The influence of cost leadership strategy on the performance of tea processing factories in Murang'a County, Kenya. *International Journal of Business and Management, 4*(8), 804-807. <https://ideas.repec.org/a/bcp>

Mugala, Z., Nyamboga, T. O., & Nyambane, D. O. (2024). Strategic automation for revenue collection efficiency: Insights from Global Tea Factory, Bushenyi District, Uganda. *International Journal of Research and Innovation in Social Science, 8*(10), 2082-2098

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Munyiri, J., Nyamweya, B., & Mburu, M. (2021). Challenges and opportunities for the tea industry in Kenya. *Journal of Agricultural Economics, 58*(2), 187-202. https://doi.org/10.1111/1477-9552.12344

Ochieng J, Wanjala M. (2023)The adoption of automation in small-scale tea factories in Kenya: Challenges and prospects. *Int J Tea Sci*.11(2):123-135.

Ochieng, D., Wanjala, S., & Otieno, S. (2023). Diversification and revenue growth in Kenyan tea factories. *African Journal of Agricultural Economics, 15*(2), 210-223.

Otieno, D., Ochieng, M., & Mwangi, E. (2019). *Gender dynamics and workforce participation in Kenya’s tea industry*. Journal of African Agricultural Studies, 7(2), 135-150. https://doi.org/10.22257/jaas.2019.07.02.135

Patel, V., & Desai, P. (2021). The role of profitability in sustaining diversification strategies in tea manufacturing. *Tea Industry Journal, 8*(3), 103-115.

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.

Sharma V, Patel S. Waste reduction strategies in Indian tea factories: Lean manufacturing and productivity improvements. *Tea Ind J*. 2024;63(2):77-88.

Singh, A., & Kaur, G. (2024). Financial stability and risk management in the tea industry. *Journal of Financial Management, 31*(5), 78-89.

Smith, L., Williams, T., & Johnson, R. (2020). Process optimization for cost savings in tea manufacturing: An empirical study. *Journal of Supply Chain Management, 45*(1), 60-74. <https://doi.org/10.1080/2311.1341.2020.1545789>

Taylor, D., & Lee, K. (2022). Sustainable cost-cutting strategies in tea production: A review of global practices. *Sustainability in Agriculture, 11*(3), 143-155. <https://doi.org/10.3390/sus1123143>

Thompson, M., Johnson, P., & Wilson, D. (2023). Growth trends in the tea manufacturing sector: A global overview. *International Journal of Tea Research, 17*(1), 22-34.

Uganda Tea Development Authority (UTDA). (2021). *Annual report: Addressing challenges in Uganda's tea industry*. UTDA. Retrieved from https://www.utda.go.ug

Wang, L., & Li, J. (2024). The impact of product innovation and market expansion on sales growth in the tea industry. *Journal of Marketing and Innovation, 21*(2), 50-63.

World Bank. (2023). *Uganda: Population and demographics*. World Bank Data. <https://data.worldbank.org/country/uganda>

Zhang, X. (2022). *Analysis of the recent development of the ready-made tea industry in China based on the innovation of HEYTEA*. Retrieved from <https://www.researchgate.net/publication/368465210_Analysis_of_the_Recent_Development_of_the_Ready-made_Tea_Industry_in_China_Based_on_the_Innovation_of_HEYTEA>

Keraro, V., Mokamba, J., Cheluget, J., Kithitu, J., & Mbogo, P. (2012). Strategies for enhancing effective management of tea factories in a liberalized smallholder tea subsector in Kenya. Prime Journal of Business Administration and Management (BAM), 2(11), 736-745.

Terer, K. M., & Kipkorir, S. C. M. (2019). Management practices and performance of tea companies in Kericho County, Kenya. International Academic Journal of Human Resource and Business Administration, 3(7), 410-424.