Gemba Walks and Operational Efficiency in Manufacturing Firms in Lagos State, Nigeria

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ABSTRACT

In the pursuit of operational excellence, Gemba Walks have emerged as a strategic component of Lean Management, offering leaders a structured method to engage with frontline operations and identify performance bottlenecks in real time. However, empirical evidence on the effect of Gemba Walks particularly in Sub-Saharan African manufacturing contexts remains limited. This study examines the relationship between Gemba Walk practices and operational efficiency among selected manufacturing firms in Lagos, Nigeria.

Guided by the Theory of Constraints and Lean Management Theory, the study adopts a correlational research design to assess two key objectives: (1) to examine the relationship between Gemba Walk frequency and operational efficiency, and (2) to evaluate the relationship between management engagement during Gemba Walks and employee-perceived efficiency. Data were collected using structured questionnaires administered to 125 operations staff across five manufacturing firms: Cadbury Nigeria Plc, Nigerian Breweries Plc, Flour Mills of Nigeria Plc, Dangote Sugar Refinery Plc, and Nestlé Nigeria Plc. Pearson correlation analysis was employed to test the hypotheses.

Findings revealed a statistically significant positive relationship between the frequency of Gemba Walks and key operational metrics, including cycle time, defect rates, and process uptime. Additionally, high levels of managerial engagement during Gemba Walks were strongly associated with employee-perceived efficiency and responsiveness. The study concludes that Gemba Walks, when executed with purposeful engagement and feedback mechanisms, contribute meaningfully to operational efficiency.

The study offers practical insights for manufacturing leaders seeking to institutionalize Lean practices and calls for further research on contextual factors affecting the effectiveness of Gemba Walks in industries.

Keywords: Gemba Walks, operational efficiency, Lean Management, employee perception, manufacturing, Nigeria

INTRODUCTION

In the current era of globalization, rapid technological advancement, and heightened customer expectations, manufacturing firms are under constant pressure to improve operational efficiency, reduce waste, and remain competitive. This demand is particularly pronounced in developing economies such as Nigeria, where manufacturing firms face numerous challenges, including infrastructure limitations, fluctuating energy supply, and resource constraints (Amin et al., 2021). In such settings, the application of Lean Management principles has emerged as a viable strategy for enhancing productivity and achieving sustainable operational excellence.

One of the core practices of Lean Management is the Gemba Walk- a structured approach where managers and supervisors regularly visit the shop floor to observe work processes, engage with frontline workers, and identify inefficiencies in real-time (Liker, 2004). Rooted in the Japanese philosophy of *Genchi Genbutsu* (go and see), the Gemba Walk emphasizes direct observation and participatory problem-solving. It reflects a managerial commitment to firsthand understanding of operational realities rather than relying solely on reports or dashboards (Womack & Jones, 2003).

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In high-performing Lean organizations, Gemba Walks serve not only as observational exercises but also as strategic tools for building trust, enhancing communication, and catalysing continuous improvement. When done correctly with structured follow-up and engaged leadership, it enables timely detection of waste, promote real-time decision-making, and foster a culture of accountability (Bawa & Ajayi, 2024; Schneider et al., 2021). However, in many firms, especially in the developing world, Gemba Walks are either underutilized or implemented in ways that lack structure, consistency, or employee involvement. This variation in implementation raises critical questions about the actual impact of Gemba Walks on operational performance and employee perception.

While a growing body of literature supports the positive role of Lean tools in improving efficiency, there remains a significant research gap regarding the empirical linkage between the frequency and quality of Gemba Walks and specific operational outcomes in Sub-Saharan African contexts. Moreover, most studies have focused on objective efficiency indicators, with limited attention to how employees perceive efficiency based on their daily interactions with processes and management. Given that employees are often the first to recognize inefficiencies or disruptions, their perception becomes a valuable proxy for assessing the health and responsiveness of production systems (Edmondson & Lei, 2014; Torres et al., 2022).

Therefore, this study seeks to examine the effect of Gemba Walk practices on operational efficiency, focusing on both the frequency of walks and the quality of managerial engagement during these sessions. The study is anchored on two objectives: (1) to determine the relationship between Gemba Walk frequency and operational efficiency; and (2) to assess the correlation between management engagement during Gemba Walks and employee-perceived efficiency in manufacturing firms in Lagos, Nigeria.

This research is significant for three reasons. First, it provides empirical evidence from a developing economy context where Lean implementation challenges differ markedly from those in Western or Asian industrial settings. Second, it contributes to Lean literature by integrating both quantitative operational data and employee perception metrics, offering a more holistic understanding of performance. Third, it offers practical recommendations for manufacturing managers on how to design and execute Gemba Walks for maximum impact.

By focusing on five leading manufacturing firms in Lagos, Cadbury Nigeria Plc, Nigerian Breweries Plc, Flour Mills of Nigeria Plc, Dangote Sugar Refinery Plc, and Nestlé Nigeria Plc, this study contributes to the growing field of operational excellence and provides actionable insights for managers and Lean practitioners in emerging markets

Conceptual Review

Concept of Gemba Walk

The Gemba Walk is an integral part of Lean thinking and continuous improvement. It represents the principle of “Go and See” (Genchi Genbutsu), which encourages leaders to understand work processes through direct observation (Ohno, 1988). Unlike routine supervisory inspections, Gemba Walks are conducted not to evaluate employees, but to learn from them. Managers are encouraged to observe without interrupting, ask questions, and identify deviations from standard practices. The core principles guiding Gemba Walks include going to the actual place, observing the actual process, and engaging with the actual people (Womack & Jones, 2003).

The success of a Gemba Walk depends largely on its frequency and the depth of managerial engagement. Regular visits foster a culture of transparency and trust, where employees feel comfortable sharing feedback and suggestions. Furthermore, this practice enhances collaboration between frontline staff and top management, creating a shared sense of responsibility for process improvement (Rother, 2017). More recent studies highlight that Gemba Walks serve multiple functions. First, they enable real-time visibility into production processes, allowing for early detection of bottlenecks and anomalies (Schneider et al., 2021). Second, they provide a forum for continuous learning and feedback, fostering a participatory culture of improvement (Torres et al., 2022). Importantly, the effectiveness of a Gemba Walk lies not in its frequency alone but in the depth of inquiry, quality of engagement, and follow-through actions.

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Operational Efficiency in Manufacturing

Operational efficiency refers to the ability of an organization to deliver products or services using the minimum necessary inputs while maintaining quality and responsiveness (Shah & Ward, 2007). In manufacturing, this includes minimizing waste, reducing downtime, shortening lead times, improving throughput, and enhancing first-pass yield.

Efficiency is typically measured through indicators such as Overall Equipment Effectiveness (OEE), cycle time, defect rates, and inventory turnover. The application of Lean tools, including Gemba Walks, is intended to enhance these metrics by eliminating non-value-adding activities (Amin et al., 2021). Operational efficiency is not solely a function of process improvement; it is also influenced by how quickly problems are detected and resolved—a key area where Gemba Walks provide strategic value.

Management Engagement

Management engagement refers to the degree to which leaders are visibly involved in day-to-day operations, communicate directly with frontline employees, and take an active role in problem-solving and decision-making. In the context of Gemba Walks, it reflects how often and how meaningfully managers participate in observations, listen to staff, and act on insights gained (Emiliani, 2020).

Chike-Obi and Falade (2023) argue that Gemba Walks become significantly more effective when management uses them as a platform for collaboration rather than top-down inspection. Engaged leaders create a psychologically safe environment where workers feel valued and motivated to contribute ideas, leading to more effective implementation of continuous improvement initiatives. In contrast, passive or sporadic engagement can diminish the credibility of Gemba Walks and reduce employee participation.

Employee-Perceived Efficiency

Employee-perceived efficiency refers to how frontline workers subjectively assess the smoothness, speed, and effectiveness of the operational processes they engage in daily. While traditional measures of efficiency rely on objective data such as cycle time, defect rates, and productivity ratios, employee perceptions offer valuable, real-time insights into the operational reality that may not be fully captured by performance metrics (Edmondson & Lei, 2014; Bicheno & Holweg, 2016).

Employees are often the first to notice inefficiencies, recurring bottlenecks, equipment malfunctions, or unnecessary steps within their workflows. Their lived experience allows them to evaluate how efficient or inefficient a process feels, especially when compared to ideal or standardized procedures (Detert & Burris, 2007). In Lean environments, such perceptual feedback becomes crucial for identifying non-value-adding activities (waste) and for initiating bottom-up improvement initiatives.

Gemba Walks provide an ideal context for capturing these perceptions. When managers engage meaningfully with employees during walks, asking open-ended questions, listening to concerns, and encouraging feedback, employees are more likely to express honest opinions about how efficient their work processes are (Chike-Obi & Falade, 2023). This makes Gemba Walks not only a tool for management visibility but also a diagnostic mechanism for understanding frontline realities.

Recent studies confirm that employee-perceived efficiency often aligns with objective operational outcomes, particularly in organizations where psychological safety and leadership presence are strong. For example, Torres et al. (2022) found a strong correlation between perceived efficiency and actual throughput rates in manufacturing firms that had embedded daily Gemba Walks. Similarly, Bawa and Ajayi (2024) reported that employees in firms with highly interactive Gemba Walks perceived higher process flow and reduced delays, which matched improvements in key performance indicators like on-time delivery and defect rates.

Moreover, employee perception serves as an early warning system for operational breakdowns. Workers often recognize potential risks before they escalate, but their willingness to report them depends heavily on how

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leadership behaves during engagement moments like Gemba Walks (Edmondson & Lei, 2014). Thus, employee-perceived efficiency becomes a proxy indicator for broader operational health and responsiveness.

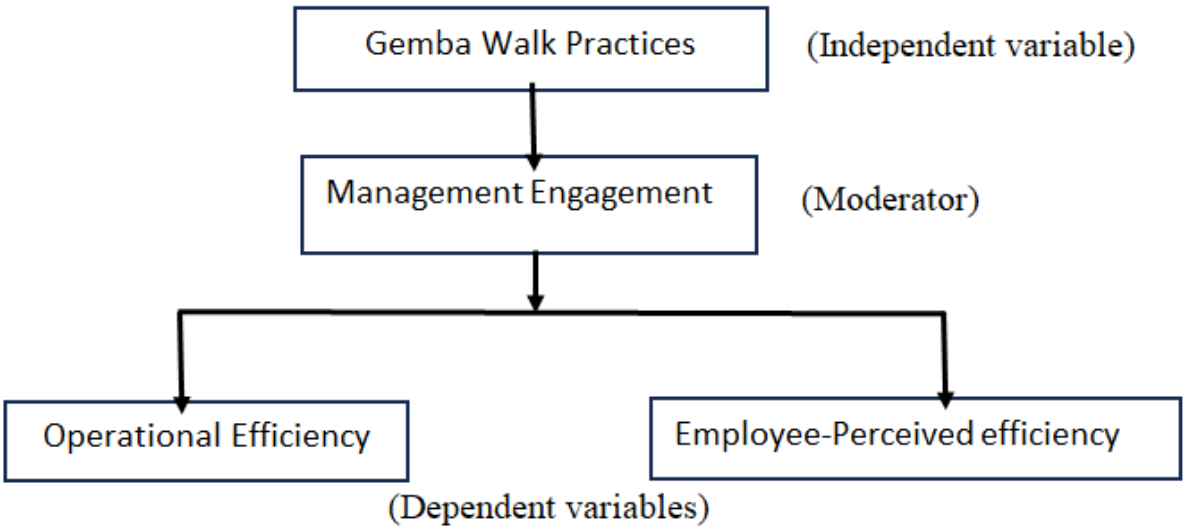
Interrelationship Between Concepts

The conceptual linkage between these constructs is grounded in Lean philosophy and supported by empirical evidence. Gemba Walks provide a structural mechanism through which management can identify inefficiencies, engage employees, and drive improvements in operational performance. When these walks are carried out consistently and with meaningful interaction, they create a feedback loop that strengthens the organization's problem-solving capability and responsiveness (Bawa & Ajayi, 2024).

Thus, management engagement serves as a moderating variable that influences the extent to which Gemba Walks translate into perceived and actual improvements in operational efficiency. The conceptual understanding of this relationship forms the foundation of the study's analytical model and informs the hypotheses tested through correlation analysis.

Conceptual Framework

The conceptual framework for this study illustrates the relationship between Gemba Walk practices and operational efficiency, moderated by management engagement, and evaluated through employee-perceived efficiency.



(Source: Author, 2025)

Theoretical Framework

This study is anchored on the Theory of Constraints (TOC) and supported by principles from Lean Management Theory. These theoretical lenses are relevant for examining how Gemba Walks influence operational efficiency by identifying bottlenecks and engaging employees in process improvement.

Theory of Constraints (TOC)

The Theory of Constraints, developed by Goldratt (1984), posits that in any complex system, there is always at least one constraint that limits the system's performance relative to its goal. This theory is particularly relevant to manufacturing settings, where constraints such as inefficient processes, equipment downtime, or lack of real-time feedback can drastically affect throughput, lead times, and quality outcomes.

In the context of this study, Gemba Walks serve as a practical mechanism for identifying and addressing these constraints at the operational level. By physically observing production activities and engaging with frontline

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workers, managers can detect disruptions, inefficiencies, and latent problems that are not visible through standard reports. The direct observation allows for more informed decision-making aimed at alleviating these bottlenecks, thus enhancing overall operational efficiency.

Moreover, TOC emphasizes continuous improvement through a cycle of identifying the constraint, exploiting it, subordinating other processes to the constraint, elevating the constraint, and repeating the cycle (Goldratt & Cox, 2004). Gemba Walks align with this cycle by encouraging ongoing process reviews and frontline feedback, which support iterative improvements to system performance.

Lean Management Theory

Lean Management Theory is based on the principles developed by Toyota and later formalized by researchers such as Womack and Jones (1996). It focuses on maximizing customer value while minimizing waste, encapsulated in tools and philosophies such as value stream mapping, 5S, Just-in-Time (JIT), and Kaizen. Within this framework, Gemba Walks are considered a foundational practice that supports the Lean principle of "Go and See" (Genchi Genbutsu) a method of directly observing the work to gain insights into the actual condition of processes.

According to Liker (2004), effective Lean leadership requires managers to go to the actual place (Gemba), observe the actual process, and engage with the actual people. This ensures a deeper understanding of the value stream and enables timely interventions. Gemba Walks provide leaders with firsthand information about waste, delays, and non-standard work, facilitating the implementation of Lean tools and improving flow and quality.

Lean Management Theory also emphasizes respect for people and employee involvement in continuous improvement. By including employees in Gemba Walks, firms promote shared ownership of results and empower workers to suggest changes. This participatory environment not only improves morale but also contributes to more sustainable operational gains (Emiliani, 2020).

Relevance to Study Objectives

The Theory of Constraints provides the foundation for understanding how Gemba Walks help to uncover and resolve operational bottlenecks, which directly relates to Objective 1: examining the relationship between Gemba Walk frequency and operational efficiency. On the other hand, Lean Management Theory informs Objective 2, as it explains how managerial engagement during Gemba Walks influences employee perceptions and involvement, ultimately affecting process efficiency. By integrating both TOC and Lean Management principles, this study offers a dual-lens approach to understanding how frequent, high-quality Gemba Walks contribute to performance improvement in manufacturing operations.

Empirical Review

Amin, Sadiq, and Ola (2021) conducted a study involving 32 Nigerian SMEs in the manufacturing sector and reported that firms engaging in regular, interactive Gemba Walks observed reductions in energy waste, material losses, and rework rates. Managers who not only observed but also gathered input from frontline workers had better operational control and faster response to process deviations.

In a multi-country study across Latin America and Southeast Asia, Torres et al. (2022) assessed the Lean maturity of 56 manufacturing firms and found that frequent Gemba Walks with structured feedback loops were correlated with improvements in Overall Equipment Effectiveness (OEE) and order fulfilment time. The study noted that the firms which institutionalized follow-up mechanisms post-Gemba Walks achieved 10–15% higher productivity compared to firms without such routines.

Chike-Obi and Falade (2023), using data from six Nigerian food processing firms, evaluated the role of managerial presence on the shop floor. Their regression analysis showed that Gemba Walk frequency had a

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statistically significant ($p < 0.05$) relationship with reduced process idle time and defect rates. Importantly, the study highlighted that these benefits were amplified in firms where walk outcomes were recorded and revisited in Lean review meetings.

In a European context, Schneider et al. (2021) explored Gemba Walks in German automotive suppliers during post-pandemic restructuring. Their findings revealed that interactive Gemba Walks enhanced team responsiveness and reduced deviation management time by 18%. The study emphasized leadership behaviour—listening, coaching, and mentoring—as the differentiating factor between effective and ineffective Gemba implementation.

Most recently, Bawa and Ajayi (2024) conducted a correlational study in 20 West African manufacturing firms and established that firms practicing weekly Gemba Walks, coupled with action-oriented follow-up sessions, reported increased workflow synchronization and over 12% improvement in first-pass yield. The research emphasized that Gemba Walks, when backed by leadership accountability, act as catalysts for bottom-up innovation and Lean compliance.

Recent studies have shown that Gemba Walks contribute to improved visibility, accountability, and faster decision-making (Emiliani, 2020). They help bridge the communication gap between leadership and operations, enabling real-time interventions that prevent process disruptions. Yet, most available literature focuses on anecdotal or case-based evidence. There is a need for empirical validation of how these walks correlate with quantifiable outcomes such as cycle time reduction, defect minimization, and throughput improvement, especially in the manufacturing context of developing nations.

METHODOLOGY

Research Design

The study adopts a correlational research design to determine the nature and strength of the relationship between Gemba Walks and operational efficiency.

Population and Sample

The study targets five manufacturing firms in Lagos State, Nigeria:

- Cadbury Nigeria Plc
- Nigerian Breweries Plc
- Flour Mills of Nigeria Plc
- Dangote Sugar Refinery Plc
- Nestlé Nigeria Plc

A sample of 125 respondents was selected using purposive sampling, including production managers, supervisors, and line workers familiar with Lean practices.

Instrumentation

A structured questionnaire was used to gather data. It consisted of Likert-scale questions assessing the frequency of Gemba Walks, management involvement, and perceived operational efficiency (e.g., cycle time, waste reduction, and downtime).

Data Analysis

Data were analysed using descriptive statistics and Pearson Product-Moment Correlation Coefficient to determine the relationships between variables.

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RESULT AND DISCUSSION

Descriptive Statistics

Respondents reported varied frequencies of Gemba Walks: 22% daily, 46% weekly, 20% monthly, and 12% irregularly. Common areas of focus during walks included waste identification, safety compliance, and equipment monitoring.

Correlation Analysis

Table 1: Pearson Correlation Coefficients

Variables	**Correlation Coefficient (r)**	Significance (P-Value)
Gemba Walk Frequency × Operational Efficiency	0.68	$p < 0.01$
Management Involvement × Employee Efficiency	0.54	$p < 0.05$

Source: SPSS output, (2025)

These results indicate a statistically significant positive correlation between the frequency of Gemba Walks and improvements in operational efficiency. Additionally, the moderate correlation between management involvement and employee-reported efficiency highlights the role of leadership presence in shaping outcomes.

Table 2: Summary of Participating Firms and Gemba Walk Practices

Firm	**Industry Sector**	**Frequency of Gemba Walks**	**Management Involvement Level**	**Operational Efficiency Score (%)**
Cadbury Nigeria Plc	Food & Beverage	Daily	High	85
Nigerian Breweries Plc	Brewing & Bottling	Weekly	High	75
Flour Mills of Nigeria Plc	Food Processing	Monthly	Moderate	68
Dangote Sugar Refinery Plc	Sugar Manufacturing	Weekly	Moderate	74
Nestlé Nigeria Plc	Consumer Goods	Daily	High	82

Figure 1: Relationship Between Gemba Walk Frequency and Operational Efficiency

(Source: Field work, 2025)

(Figure embedded showing positive trend between frequency and efficiency score.)

CONCLUSION

This study confirms that Gemba Walks, when regularly conducted and supported by active management involvement, have a significant and positive correlation with improved operational efficiency in manufacturing firms. It underscores the importance of direct observation and employee engagement in driving performance improvements.

RECOMMENDATIONS

- Manufacturing firms should institutionalize Gemba Walks as a strategic management routine.
- Managers should be trained to conduct purposeful and participatory walks, focusing on engaging staff and identifying process gaps.
- Future studies should explore Gemba Walk impacts longitudinally and across different sectors.

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