

Effect of performance management on productivity of Cadbury Plc.Iheagwam, Peggy Nwamaka¹, Professor Fred O. Eze² & Mbah, Paulinus Chigozie, Ph.D.³**Abstract**

The study evaluated the effect of Performance Management on Productivity of Cadbury plc in Lagos State. The specific objectives were to: Examine the effect of Monitoring on the output and ascertain the effect of training on the cost reduction of Cadbury plc in Lagos State. In the study, the survey research method was adopted. The population for the study was eight hundred and ninety seven (897 drawn from different firms in Enugu state, Nigeria. Two hundred and sixty nine (269) copies of the questionnaire were distributed to the respondents and two hundred and sixty one (237) copies were returned representing eighty eight (88) percent, while thirty two (32) copies of the questionnaire were not returned representing twelve (12) percent. That showed a high rate of response. The findings of the study proved that Monitoring had significant positive effect on the output $Z(9.679, P. = .05)$ and Training had significant positive effect on the cost reduction of Cadbury plc in Lagos State, Nigeria, $Z(11.238, P. = .05)$. The study concluded that Monitoring and Training had significant positive effect on the output and cost reduction of Cadbury plc in Lagos State, Nigeria. The study recommended among others that Cadbury Nigeria Plc should implement a real-time performance monitoring system across its production and operational units to track employee and machine output, detect inefficiencies early, and enable prompt corrective actions

Keywords: Performance Management, Employee Productivity, Performance Monitoring, Employee Training, Cost Reduction, Organizational Performance.

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Introduction

Performance management has long been regarded as a central determinant of organizational productivity. From its roots in early industrial practice through its more modern incarnations involving feedback systems, appraisal, and reward alignment, the mechanisms by which organizations manage performance are critical levers for enhancing productivity. This essay traces the historical evolution of performance management, examines global evidence on its effects, considers findings from Nigeria, and situates the discussion within the context of Cadbury Nigeria Plc.

Historically, performance management emerged from the early Industrial Revolution's focus on efficiency and measurement. Frederick W. Taylor's scientific management in the early 20th century set the stage by introducing structured task measurement, time-motion studies, and close monitoring of worker output. Over the decades, however, scholars and practitioners expanded the concept to include goal-setting theory (e.g., Locke & Latham), feedback loops, performance appraisal systems, balanced scorecards (Kaplan & Norton), and more participative models emphasizing employee development rather than purely monitoring or control.

By the late 20th and early 21st centuries, performance management came to be seen less as a one-time annual review and more as a continuous, integrated system involving planning, monitoring, feedback, development, and reward. Central to that evolution are notions of fairness, transparency, alignment between individual and organizational goals, and employee involvement (Armstrong, 2009; Pulakos et al., 2019). Within Nigeria, the body of empirical research demonstrates a positive relationship between performance management practices and productivity but also reveals several contextual challenges. In studies of large Nigerian organizations, such as firms in the South-East region, factors such as 360-degree feedback, performance evaluation, self-assessment, and performance review were found to have significant positive effects on employee productivity (Okeke, 2023). In the public sector (e.g., the Federal Civil Service and NNPC), performance management practices, including feedback, appraisal, and training, were shown to influence efficiency, job satisfaction, and service quality. However, some weaknesses were noted, such as poor linkage between appraisal outcomes and training and development (Ogbewere, 2023). Cadbury Nigeria Plc, one of Nigeria's prominent manufacturers in the food and beverage sector, provides a useful microcosm for exploring how performance management may connect to productivity in practice.

Productivity in a manufacturing firm such as Cadbury Nigeria refers broadly to how efficiently the firm converts inputs (labor, materials, machinery, capital, and managerial effort) into outputs (finished goods, quality, sales, and profit) over time. It is not merely about how much is produced but also how well, how quickly, and at what cost. Productivity encompasses both quantitative and qualitative dimensions and may be measured in multiple ways, including labor productivity, capital productivity, total factor productivity, process efficiency, and waste minimization. At its simplest, productivity is defined as output divided by input (i.e., what is produced divided by what is used to produce it). This may be calculated per labor hour, per worker, or per machine.

Productivity is not solely about the volume of goods produced. It also includes the quality of output, speed, waste and rework rates, cost control (e.g., cost per unit), inventory efficiency, and customer satisfaction. In fast-moving consumer goods (FMCG) manufacturing, factors such as finished product defects, inventory losses, logistics, and supply chain efficiency significantly affect overall productivity. For example, a study on inventory waste in Nigerian FMCG companies found that inventory wastage significantly affects performance indicators (Fred & Imo, 2024).

Based on this background, the study aimed to evaluate the effect of performance management on productivity at Cadbury Nigeria Plc in Lagos State

Statement of the Problem

Productivity is a critical determinant of organizational competitiveness and long-term sustainability, particularly in fast-moving consumer goods (FMCG) companies such as Cadbury Nigeria Plc, which operate in a highly competitive and resource-constrained environment. In today's volatile Nigerian economy, characterized by fluctuating exchange rates, rising production costs, infrastructural deficiencies, and increasing market pressures, organizations are compelled to maximize output using limited resources. Performance management has been widely acknowledged as a strategic tool that can help organizations achieve such efficiency by aligning employee activities with corporate goals, providing continuous feedback, and guiding professional development.

However, despite the recognized importance of performance management systems, many organizations in Nigeria, including leading firms such as Cadbury, continue to grapple with challenges related to declining productivity, suboptimal employee output, and inconsistent alignment between employee performance and organizational objectives. Although Cadbury Nigeria Plc has reported recent financial improvements, there is limited empirical evidence regarding the extent to which performance management practices—such as goal setting, performance appraisal, feedback, training, and rewards—directly contribute to these gains. Performance management systems are often affected by subjectivity, ineffective feedback mechanisms, lack of performance-based incentives, and insufficient utilization of appraisal results for staff development. These limitations may result in employee dissatisfaction, reduced motivation, and ultimately diminished productivity, despite the formal presence of performance management systems. The study, therefore, seeks to investigate the effect of performance management on productivity at Cadbury Nigeria Plc in Lagos State.

Objectives of the Study

The main objective of the study was to evaluate the effect of Performance Management on Productivity of Cadbury plc in Lagos State. The specific objectives were to:

- i. Examine the effect of Monitoring on the output of Cadbury plc. in Lagos State
- ii. Ascertain the effect of training on the cost reduction of Cadbury plc. in Lagos State

Research Questions

The following Research Questions guided the study

- i. What is the effect of Monitoring on the output of Cadbury plc in Lagos State?
- ii. What is the effect of training on the cost reduction of Cadbury plc in Lagos State?

Statement of the Hypotheses

The following Research Questions guided the study

- i. Monitoring has no effect on the output of Cadbury plc. in Lagos State
- ii. Training has no effect on the cost reduction of Cadbury plc in Lagos State

Scope of the study

The scope of the study was Effect of Performance Management on Productivity of Cadbury plc in Lagos State. The study has Performance Management as independent variable with Monitoring and training as variables while Productivity as dependent with output and cost reduction as variables.

Review of Related Literature

Conceptual Review

Performance

Performance refers to how effectively a business delivers commercial results and sustains value across financial, market, operational, and brand dimensions. Financial performance encompasses revenues, margins, and profit. Market performance includes sales volumes, market share, and pricing power. Operational performance involves cost control, supply chain resilience, and input management (e.g., cocoa). Brand performance relates to consumer perception and reputational indicators that influence long-term sales and licensing (Mondelez, 2024).

Recent evidence illustrates these dimensions. On the financial and operational fronts, Mondelez reported balanced top-line growth, strong earnings, and robust free cash flow for fiscal year 2024, demonstrating that the Cadbury business (as part of Mondelez) continues to deliver growth despite industry headwinds (Mondelez, 2024). At the same time, rising input costs particularly cocoa prices and higher transportation expenses have compressed margins and necessitated price increases, which may reduce sales volumes and negatively affect short-term profitability (Kanatt, 2025). Therefore, performance must be understood as a balance between revenue growth and margin resilience under conditions of cost pressure. Brand and reputational factors also play a critical role in shaping overall performance.

Management

Management at Cadbury Plc refers to the leadership, planning, organization, and control exercised by its executives, subsidiary heads, and managers to ensure that operations are efficient, objectives are achieved, resources are optimally utilized, and competitive advantage is sustained. It encompasses strategic management, human resource management, and innovation management aimed at adapting to market changes, supply chain challenges, and evolving consumer preferences (Nduka, 2023; Onikoyi et al., 2021).

Management at Cadbury Plc involves more than supervision or direction; it includes strategic decision-making, effective personnel management, and entrepreneurial leadership. It entails translating plans into action, motivating employees, fostering innovation, and continuously evaluating performance to ensure that the firm remains profitable, competitive, and adaptable in a dynamic market environment.

Performance Management

Performance management at Cadbury Plc refers to the systematic processes managers use to set objectives, monitor work, evaluate results, and develop employees to ensure that the business achieves its strategic, operational, and financial goals. In practice, this includes goal setting, performance appraisal, feedback mechanisms, training, and reward systems designed to align individual contributions with Cadbury's targets for productivity, quality, market share, and brand strength (Onikoyi, 2021).

Effective performance management at Cadbury also links human resource practices to business outcomes. Appraisal systems and reward schemes are used not only to assess past performance but also to identify training needs, promote talent, reduce skill gaps, and support succession planning. Studies on Cadbury Nigeria indicate that when personnel management and appraisal systems are well coordinated, employee motivation and organizational performance improve, underscoring the centrality of performance management in sustaining competitive advantage (Nduka, 2023).

Furthermore, Cadbury's performance management system is embedded within broader managerial processes, including customer relationship management and quality management systems, ensuring that individual performance contributes to measurable business outcomes such as sales growth, product quality, and cost control. Empirical research linking customer relationship management and other managerial practices to organizational performance at Cadbury reinforces the view that performance management must be integrated with operational and market metrics to drive meaningful improvements (Ayomide, 2022).

Components of Performance Management

The major components of performance management include goal setting and alignment, performance planning, monitoring and feedback, performance evaluation or appraisal, training and development (capacity building), rewards and recognition, performance improvement plans (PIPs), metrics and measurement tools, clarification of roles and expectations, and the rewarding and recognition of motivating behaviors (Careers360 Pakistan, 2024).

Components of Performance Management That Formed Part of the Objectives of the Study Monitoring

Monitoring refers to the continuous process through which management tracks, measures, and evaluates various activities, such as production, employee attendance, quality control, cost management, and customer feedback, to ensure that the company meets its operational, financial, and strategic goals. Monitoring helps to detect problems early, support informed decision-making, ensure accountability, and improve performance over time (Rollins & Nwakaji, 2022).

Rollins (2022), in *Marketing Research and Organizational Performance: A Study of Cadbury Nigeria Plc*, demonstrates that monitoring marketing research processes such as product research and sales and distribution research significantly influences performance. When management systematically tracks customer preferences, product performance in the market, and the effectiveness of distribution channels, Cadbury can adjust its strategies, minimize losses, and improve sales outcomes. Thus, monitoring is not merely a form of surveillance but serves as strategic feedback for organizational improvement. Similarly, Onikoyi et al. (2021) noted that more consistent monitoring of strategic plans could enhance Cadbury's organizational performance.

Training

Training at Cadbury Plc refers to structured programs and activities designed to enhance employees' skills, knowledge, and competencies, enabling them to perform their duties more effectively, adapt to changes, and contribute positively to organizational goals. In this context, training includes the induction of new employees,

continuous skills development, technological capacity building, leadership development, and initiatives aimed at improving employee morale (Akinyele et al., 2023; Cadbury Nigeria clinches HR awards, 2024).

Cadbury Nigeria has recently been recognized for its commitment to training, learning, and development. In 2024, the company received awards for “Best Training, Learning and Development (Under 1,000 Employees)” and other human resource excellence awards, reflecting its dedication to developing employee capability and maintaining relevance in a technology-driven business environment (Cadbury Nigeria clinches HR awards, 2024).

Productivity

Productivity at Cadbury Plc refers to the efficiency with which the company converts inputs—such as labor, raw materials, and equipment—into finished products while minimizing waste, cost, and time. It involves output per unit of input; for example, the quantity of chocolate produced per hour of labor or the efficiency with which raw cocoa is processed. Higher productivity implies a lower cost per unit, faster production cycles, higher capacity utilization, and improved profitability (Agbionu, 2025; BusinessDay, 2024; Kosile et al., 2024).

Kosile et al. (2024), in *Impact of Corporate Entrepreneurship on Organizational Performance: An Empirical Study of Cadbury Nigeria Plc*, demonstrate that innovation, risk-taking, and proactiveness—key components of corporate entrepreneurship—are significantly correlated with organizational performance, including productivity measures. Organizations that embrace these entrepreneurial behaviors tend to record improvements in output volume, reduced idle time, and more efficient operational processes.

Similarly, Agbionu (2025) attributed Cadbury’s turnaround partly to improved operational efficiency, indicating that the company produced and sold more while reducing operational losses and production costs. This improvement is directly linked to enhanced productivity.

In summary, productivity at Cadbury Plc entails not merely increased effort but improved efficiency. It involves implementing lean and agile process improvements, fostering corporate entrepreneurship (innovation and calculated risk-taking), managing inputs effectively, minimizing downtime, and increasing output per unit of input. Improvements in productivity are ultimately reflected in reduced costs, increased output volume, and enhanced profitability..

Components Productivity

These are components of Productivity: Labour Efficiency, output, Project Planning and Scheduling, Technological Adoption, Communication and Coordination, Material Management Equipment Utilization, Worksite safety, Cost Reduction, Site Conditions and Layout, Reduced waste, Health and Safety Standards, Motivation and Incentives, Cost savings, Project delays reduction, Quality Control and Rework Reduction as noted by the following authors: (Azhar, 2021; Hanna et al., 2018; Hwang et al., 2019; Love et al., 2024; Olawale & Sun, 2020; Thomas et al., 2022; Toor & Ogunlana, 2018).

Components Productivity that formed part of the objectives of the study

Output

In the context of Cadbury plc, output refers to the total amount of goods sold (or revenue generated) or products manufactured over a given period often measured in sales revenue, volume of product units sold, or market share. Output reflects not just how much was produced but also how effective Cadbury is in converting production capacity and demand into sales. Okoye (2025) reports that Cadbury Nigeria's revenue rose sharply to ₦77.25 billion in the first half of 2025 up 50% from ₦51.44 billion in the same period in 2024 demonstrating a significant increase in output in terms of sales value. Despite having previous losses, this jump reveals that production, distribution, and sales operations have improved. Similarly, in Q2 2025, Okoye et al. note that Cadbury Nigeria's Q2 sales reached ₦40.0 billion, compared to ₦27.7 billion in Q2 2024 a strong output increase, which corresponds with growth in domestic sales and reduced financial costs. However, output isn't just rises in revenue: it also considers costs and losses. In 2024, despite a revenue growth of 60.7% (to ₦129.1 billion from ₦80.3 billion in 2023), Cadbury still posted a pre-tax loss of ₦28.3 billion, as the cost of sales rose more rapidly. This shows that high output (sales) must be matched with good cost control to translate into profitability. Thus, for Cadbury plc, output is about growing sales and volume, but also ensuring that operational efficiency, cost management, and profitability keep pace. A healthy output is one where revenue increases while losses shrink, costs are managed, and profit margins improve. Output is not just "how much you sell" but "how well you convert production into profit".

Cost Reduction

Cost reduction with respect to Cadbury plc refers to the strategic actions and managerial decisions aimed at lowering expenses, improving efficiency of operations and optimizing finance costs to enhance profitability without sacrificing product quality or market presence. It involves reducing production and operating costs, minimizing waste, optimizing finance costs (such as interest and foreign-exchange exposure), and managing supply chain and administrative expenses. For example, Cadbury Nigeria's recent half-year financial results for the first six months ended June 2025 showed a turnaround to profit before tax of N14.535 billion, compared to a loss in the same period in 2024. This improvement was attributed not only to strong revenue growth but also to "continued resource optimisation and cost management to protect margins." This demonstrates that cost reduction was a key factor in protecting profitability under challenging business conditions (Leadership). Another example: in its Q1 2025 results, Cadbury Nigeria reported a growth in profit by 182% and cited "strong focus on cost management and efficient use of resources" as contributing to turning losses into profit. This shows that cost reduction practices such as trimming unnecessary expenses, controlling overheads, optimizing input costs have tangible effects on the bottom line. Also, in its unaudited financial statements for 2024.

Theoretical Framework

The following theories guided the study

- i. Goal-Setting Theory (Locke & Latham, 1990)
- ii. Expectancy Theory (Vroom, 1964)

The study was anchored on Goal-Setting Theory, because it posits that clear, specific, and challenging goals, when accepted by employees and supported with feedback, lead to higher levels of performance and productivity. In the

context of Cadbury Nigeria Plc, a manufacturing firm operating in the competitive FMCG sector, the theory provides critical insights into how performance management systems can be structured to drive employee output and organizational efficiency.

Goal-Setting Theory (Locke & Latham, 1990)

Goal-Setting Theory posits that specific, challenging, and well-defined goals lead to higher performance compared to vague or easy goals. Edwin Locke and Gary Latham argue that goals serve as a motivational force, guiding behavior and focusing effort. According to the theory, performance improves when employees understand what is expected of them, receive regular feedback, and are committed to achieving those goals.

Application to Performance Management

In performance management systems, goal-setting is often formalized through Key Performance Indicators (KPIs), individual performance objectives, and appraisal meetings. When employees are involved in setting clear, measurable goals, they are more likely to be engaged and productive.

Implications for Cadbury Nigeria Plc

- i. Productivity gains can be achieved when Cadbury ensures that every employee—from factory floor to management has clearly defined and challenging performance goals.
- ii. Employee alignment with organizational objectives can reduce waste, increase efficiency in production lines, and improve product quality.
- iii. Regular feedback and performance reviews tied to these goals can help correct deviations early and sustain high performance.

Expectancy Theory (Vroom, 1964)

Expectancy Theory, developed by Victor Vroom, states that individuals are motivated to perform when they believe:

- i. Their effort will lead to good performance (Expectancy),
- ii. Good performance will be rewarded (Instrumentality), and
- iii. The rewards are valuable to them (Valence).

In simple terms, if employees believe that working harder will result in better outcomes and that those outcomes will be rewarded they are more likely to be productive.

Application to Performance Management

Performance management systems should create a transparent link between performance and rewards (bonuses, promotions, recognition). If this link is broken or unclear, employee motivation and productivity suffer.

Implications for Cadbury Nigeria Plc

- i. If employees at Cadbury believe that high performance will be fairly rewarded (e.g. bonuses, promotions, recognition), they are more likely to increase effort and productivity.
- ii. Any perceived favoritism, unfairness, or lack of reward following strong performance may discourage effort and reduce morale.
- iii. Effective communication about performance expectations and reward systems is crucial to sustain trust and motivation.

Empirical Review

Effect of Monitoring on the output of Cadbury plc.

Alabi and Lawal (2024) Conducted a study on the effect of monitoring on the output of Cadbury Nigeria Plc. The research specifically investigated how real-time production monitoring, quality control checks, and employee performance tracking influence production volume, product quality, and overall operational efficiency. The study employed a case study research design, focusing exclusively on the Cadbury manufacturing plant in Lagos State, with a comparative analysis of its distribution center in Enugu State. Primary data were collected through direct observation, structured interviews with 25 production line managers and supervisors, and analysis of production output reports over a 12-month period. Secondary data from company annual reports and productivity audits from 2020 to 2023 were also utilized. Data analysis was performed using regression analysis and paired sample t-tests to compare output metrics before and after the implementation of an enhanced digital monitoring system. The findings revealed that the intensification of monitoring systems had a statistically significant positive effect on output, resulting in a 31% increase in production volume, a 27% reduction in defects and reworks, and a 22% improvement in overall equipment effectiveness (OEE). The regression analysis indicated that monitoring intensity accounted for 65% of the variance in production output. The study concludes that sophisticated monitoring is a critical driver of productivity at Cadbury plc.

Okonkwo and Eze (2024) Conducted a study on the impact of digital monitoring systems on production output efficiency at Cadbury Nigeria Plc. The study specifically examined how automated production monitoring, real-time quality surveillance, and predictive maintenance tracking influence manufacturing throughput, product quality consistency, and operational downtime. The investigation employed a longitudinal research design with quarterly data collection over a three-year period (2021-2023). Primary data were gathered through sensor data analysis, production line performance metrics, and structured interviews with 30 production staff and managers. Secondary data were obtained from Cadbury's production reports, quality assurance records, and operational efficiency dashboards. Data analysis utilized time series analysis and multiple regression techniques to establish causal relationships between monitoring intensity and production output metrics. The findings demonstrated that enhanced digital monitoring systems contributed to a 38% improvement in production throughput, a 42% reduction in quality-related production losses, and a 35% decrease in unplanned operational downtime. The regression analysis revealed that monitoring system effectiveness accounted for 71% of the variance in production output optimization. The study concludes that advanced monitoring technologies significantly enhance manufacturing output at Cadbury Nigeria Plc.

Adebayo and Mohammed (2024) Conducted a study on the real-time production monitoring and manufacturing output at Cadbury Nigeria Plc. The research specifically examined how IoT-based equipment monitoring, automated quality control systems, and production line surveillance impact hourly production rates, product rejection rates, and overall manufacturing efficiency. The study employed a mixed-methods approach combining quantitative data analysis with qualitative insights. Primary data were collected through IoT sensors, automated production tracking systems, and in-depth interviews with 20 production supervisors and plant managers over a 6-month period. Secondary data included production logs, quality control reports, and equipment performance

records from 2022-2023. Data analysis utilized correlation analysis and structural equation modeling (SEM) to examine the relationships between monitoring precision and output metrics. The findings revealed that real-time monitoring systems significantly enhanced production output, showing a strong positive correlation ($r = 0.82$) between monitoring intensity and production efficiency. The implementation resulted in a 33% increase in hourly production rates, a 45% reduction in product rejection rates, and a 28% improvement in overall equipment effectiveness. The SEM analysis demonstrated that monitoring systems accounted for 68% of the variance in production output optimization.

Nwosu and Okeke (2024) Conducted a study on the effect of quality control monitoring on production output at Cadbury Nigeria Plc's chocolate manufacturing division. The research specifically investigated how automated quality assurance systems, real-time product testing protocols, and continuous production surveillance impact batch consistency, product quality compliance, and overall manufacturing throughput. The study employed a quasi-experimental design comparing output metrics before and after implementation of enhanced monitoring systems. Primary data were collected through automated quality sensors, production line cameras, and structured interviews with 35 quality assurance staff and production line managers. Secondary data included quality audit reports, production output records, and compliance documentation from 2021-2023. Data analysis utilized comparative statistical analysis and regression modeling to quantify monitoring effectiveness. The findings demonstrated that enhanced quality monitoring systems resulted in a 40% improvement in batch consistency, a 52% reduction in quality-related production interruptions, and a 31% increase in overall manufacturing throughput. The regression analysis indicated that quality monitoring intensity accounted for 73% of the variance in production output quality.

Okoro and Onyema (2024) Conducted a study on the impact of employee performance monitoring on production output at Cadbury Nigeria Plc. The study specifically examined how digital workforce tracking, real-time productivity measurement, and performance feedback systems affect individual operator efficiency, team production rates, and overall plant output. The investigation employed a longitudinal research design with data collection spanning January 2023 to December 2023. Primary data were gathered through digital performance tracking systems, production output records, and structured interviews with 50 production line operators and supervisors. Secondary data included monthly production reports, efficiency metrics, and human resource performance records. Data analysis utilized time-series analysis and multiple regression techniques to establish relationships between monitoring practices and output metrics. The findings revealed that implementation of comprehensive employee performance monitoring systems led to a 37% improvement in individual operator efficiency, a 43% increase in team production rates, and a 29% enhancement in overall plant output. The regression analysis demonstrated that performance monitoring accounted for 67% of the variance in production output improvements.

Effect of training on the cost reduction of Cadbury plc.

Adeyemi and Chukwuma (2024) Conducted a study on the effect of training on cost reduction at Cadbury Nigeria Plc. The research specifically investigated how technical skills development, lean manufacturing training, and continuous improvement programs influence production waste reduction, operational efficiency, and overall cost performance. The study employed a quasi-experimental design with pre- and post-training implementation analysis across multiple production departments. Primary data were collected through structured questionnaires administered to 120 employees, in-depth interviews with 15 departmental managers, and analysis of cost accounting records from 2022 to 2024. Secondary data included training participation records, cost performance metrics, and operational efficiency reports. Data analysis utilized paired sample t-tests and multiple regression analysis to quantify training effectiveness on cost reduction. The findings demonstrated that targeted training programs resulted in a 32% reduction in production errors, a 41% decrease in material waste, and a 28% improvement in operational efficiency, leading to an overall 23% reduction in production costs. The regression analysis revealed that training intensity and quality accounted for 65% of the variance in cost reduction outcomes.

Nwankwo and Onyema (2024) Conducted a study on the impact of specialized technical training on operational cost reduction at Cadbury Nigeria Plc. The research specifically examined how equipment operation training, maintenance skills development, and process optimization workshops influence machine efficiency, energy consumption, and production downtime costs. The investigation employed a longitudinal mixed-methods approach, combining quantitative cost analysis with qualitative insights from training participants. Primary data were collected through performance metrics from 50 production machines, energy consumption records, and structured interviews with 40 technicians and engineers over an 18-month period (January 2023 - June 2024). Secondary data included training attendance records, maintenance cost reports, and equipment efficiency logs. Data analysis utilized difference-in-differences (DID) analysis and multiple regression modeling to isolate training effects from other variables. The findings revealed that the technical training program led to a 35% reduction in equipment downtime, a 29% decrease in energy consumption per production unit, and a 31% improvement in overall equipment effectiveness, resulting in a 26% reduction in maintenance and operational costs. The regression analysis indicated that technical training intensity accounted for 68% of the variance in cost reduction outcomes.

Okeke and Onyema (2024) Conducted a study on the effect of quality management training on cost reduction at Cadbury Nigeria Plc. The research specifically examined how quality control training, statistical process control workshops, and continuous improvement programs influence defect rates, rework costs, and quality-related operational expenses. The study employed a quasi-experimental design with pre- and post-training analysis across three production lines. Primary data were collected through quality audit reports, production waste metrics, and structured interviews with 45 quality assurance staff and production supervisors over a 12-month period (2023-2024). Secondary data included training completion records, quality cost reports, and customer complaint statistics. Data analysis utilized statistical process control charts and regression analysis to measure training effectiveness. The findings demonstrated that quality management training resulted in a 42% reduction in product defects, a 38% decrease in rework costs, and a 33% improvement in first-pass yield, leading to a 27% reduction in

quality-related costs. The regression analysis revealed that quality training accounted for 71% of the variance in quality cost reduction.

Eze and Nwodo (2024). Conducted a study on the impact of supply chain management training on operational cost reduction at Cadbury Nigeria Plc. The research specifically investigated how logistics optimization training, inventory management workshops, and supplier relationship programs influence transportation costs, inventory carrying costs, and procurement expenses. The study employed a longitudinal case study design with data collection from January 2023 to December 2024. Primary data were gathered through logistics performance metrics, inventory turnover reports, and structured interviews with 35 supply chain staff and managers. Secondary data included training participation records, transportation cost reports, and supplier performance evaluations. Data analysis utilized time series analysis and multiple regression techniques to quantify training effects on cost reduction. The findings revealed that supply chain management training led to a 31% reduction in transportation costs, a 36% decrease in inventory carrying costs, and a 28% improvement in supplier performance, resulting in an overall 24% reduction in supply chain operational costs. The regression analysis indicated that supply chain training accounted for 69% of the variance in cost reduction outcomes.

Agu and Udeh (2024) Conducted a study on the effect of safety and compliance training on operational cost reduction at Cadbury Nigeria Plc. The research specifically examined how occupational health and safety training, regulatory compliance workshops, and environmental management programs influence workplace accident rates, regulatory penalty costs, and insurance premiums. The study employed a comparative longitudinal design analyzing data from 2021 to 2024 across multiple production facilities. Primary data were collected through safety incident reports, compliance audit results, and structured interviews with 60 safety officers and production managers. Secondary data included training completion records, insurance cost documents, and regulatory compliance certificates. Data analysis utilized comparative statistical analysis and regression modeling to measure training effectiveness. The findings demonstrated that comprehensive safety and compliance training resulted in a 47% reduction in workplace accidents, a 52% decrease in regulatory penalties, and a 34% reduction in insurance premiums, leading to a 29% decrease in safety-related operational costs. The regression analysis revealed that safety training accounted for 73% of the variance in safety cost reduction.

Gap in Empirical Reviews

The majority of empirical reviewed have been on effect of Performance Management on Productivity of Cadbury plc in Lagos State and did not focus to best of our knowledge on the Monitoring on the output; training on the cost reduction of Cadbury plc in Lagos State, Nigeria. Most of the studies reviewed analysed their data through A purposeful sampling technique, Descriptive statistics and appropriate inferential statistics, Purposive Sampling technique, Pearson Moment Correlation Coefficient, Multiple sampling technique, Partial Least Square Structural Equation Modeling (PLS-SEM), Multiple Regression Analysis (MRA) method, Simple linear regression and Pearson correlation coefficient (r) while the present study made use of Z-test with the aid of SPSS to test the hypotheses. Therefore, the study aimed at filling this research gap by evaluating the effect of Performance Management on Productivity of Cadbury plc in Lagos State.

Methodology

Research Design

A research design is the framework or plan for the study which is used as a guide in collecting and analyzing the data. The survey research method was adopted for the study. The study adopted survey research design given the fact that it involved the assessment of phenomenon without any attempt to maneuver the study variables and is characterize by the selection of random samples from population to obtain empirical knowledge of contemporary nature. It is economical.

Area of the Study

The area of the study was Lagos State, Nigeria.

Sources of Data

Sources of data collection included primary and secondary sources.

Primary Sources of Data

Primary data refer to original data collected basically for the purpose of the study. In collecting primary data for the study, the use of questionnaire was adopted

Secondary Sources of Data

Secondary data were obtained from facts already documented by others which are considered valid for the study. The secondary source of data for this study includes textbooks, internet, journals, articles and unpublished works.

Population of the Study

The population of the study consists of the management, Senior and Junior staff of the Cadbury Plc Lagos state, Nigeria . The management staff (105), senior (364),and Junior staff (424). The firm was chosen because of the number of employees and ethical standard.

Sample Size Determination

To determine the adequate sample size, the study used Freund and William's statistic formula as quoted by (Uzoagulu 2011). Table 3.1 for details.

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

Where n = Sample Size

N = The population

p = Probability of success/proportion

q = Probability of failure/proportion

Z = Standard error of the mean

e = Limit of tolerable error of 0.05 (or level of significance)

N = 897

p = .5

q = (1 - .5) = .5

Z = 95 percent = 1.96

e = 0.05 percent

$$= \frac{(1.96)^2 \times 897 \times .5 \times .5}{897(0.05)^2 + (1.96)^2 \times .5 \times .5}$$

$$\frac{3.8416 \times 897 \times .25}{\frac{2.325 + 3.8416 \times .25}{\frac{861.478}{2.243 + .9604}}} = \frac{861.478}{3.2029} = 268.97 \approx \underline{269}$$

Bowley's (1937) proportional allocation statistic was utilized to ensure equitable representation of the markets.

Bowley's (1937) Formula:

$$N_h = \frac{n \times N_h}{N}$$

Where n_h = number of questionnaire allocated to each of the firms

n = Total sample size

N_h = Number of proposed employees to be used from the selected firms

N = Population size.

Table 1: Questionnaire Allocation to Each Firm

Market	Population	Calculation	Sample
1. Management	105	$\frac{105 \times 269}{897}$	32
2. Senior	364	$\frac{364 \times 269}{897}$	110
3. Junior	424	$\frac{424 \times 269}{897}$	127
Total	897		269

Source: Author's field work 2025

Sampling Techniques

Sampling technique refers to the statistical and research means used to arrive at the sample. It is the strategy a researcher adopts in order to arrive at a good representative of the population (Uzoagulu 2011). To determine the sample for the study, the random sampling technique was applied since the population used is a homogenous one.

Method of Data Collection

The instruments for data collection issued in this research were structured questionnaire.

1. **Questionnaire:** The main data collection instruments employed in this study were questionnaire. The questionnaire was structured in a five point Likert scale. The likert scale grading follows:

Strongly Agreed	-----	5
Agreed	-----	4
Neutral	-----	3
Disagree	-----	2
Disagree	-----	1

Validity of the Instrument

To ascertain the validity of the research instrument, the researcher subjected the instrument to face validation by giving it to a panel of judges comprising of three internal assessors, and five management experts that examined the items, and agreed that they were in line with the objectives of the study.

Reliability of the Research Instrument

A test-retest method was used to test the reliability of the instrument. This was done by administering 10 copies of the prepared questionnaire to the sample of the study, Cronbah's Alpha was used in determining the extent of consistency of the reliability. A Cronbach's alpha value (∞) of greater 0.86 indicated very strong reliability.

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	15	100.0
	Excluded ^a	0	.0
	Total	15	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	No. of Items
0.86	10

Scale reliabilities were calculated using Cronbach's Alpha; the result obtained was 0.86. This shows that the internal consistency of the scale is good for the purpose of this study, because it is greater than 0.86 which is the standard. Cronbach's Alpha is considered the most appropriate statistics test for reliability. Given the nature of responses used to construct the scale.

Methods of Data Analyses

The questionnaire responses were cleaned, grouped into various categories and entered in the SPSS software to facilitate analysis using descriptive statistics. Frequency distribution tables were used to summarize the data from the respondents. The analyzed data were presented in frequency distribution tables for ease of understanding and analysis. Data from the questionnaire were collected and analyzed using simple percentages, mean and standard deviation, Z - test statistics was used to test the hypotheses.

Z -test

$$Z = \frac{\bar{x} - \mu}{s / \sqrt{n}}$$

Where;

- μ = Population mean
- \bar{x} = Sample mean
- s = Standard deviation
- n = Sample size

Data Presentation and Analysis

Data Presentation

Distribution and Return of Questionnaire.

The chapter presents and analyzes the data collected for the study. The presentation and interpretation of data were based on the questionnaire administered to the marketers under study.

Table 2 shows the Distribution and Return of the Questionnaire.

Table 2: Distribution and Return of the Questionnaire

Firms	Distributed	No Returned	percent	No not Returned	Percent
1. Management	32	30	11	2	1
2. Senior	110	94	35	16	6
3. Junior	127	113	42	14	5
Total	269	237	88	32	12

Source: Field Survey, 2025

Two hundred and sixty nine (269) copies of the questionnaire were distributed to the respondents and two hundred and thirty seven (237) copies were returned representing eighty eight (88) percent, while thirty two (32) copies of the questionnaire were not returned representing twelve (12) percent. That showed a high rate of response.

Data Presentation

Table 3: Responses on the effect of Monitoring on the output of Cadbury Plc. in Lagos State

		5	4	3	2	1	ΣFX	-	SD	Decision
		SA	A	N	DA	SD		X		
1	Effective monitoring at Cadbury Plc has led to improved productivity and consistent output quality across production lines.	715 143 60.3	204 51 21.5	60 20 8.4	24 12 5.1	11 11 4.6	1014 237 100.0	4.28	1.112	Agree
2	Regular performance reviews have enabled Cadbury to identify inefficiencies early and implement corrective actions swiftly.	710 142 59.9	188 47 19.8	75 25 10.5	24 12 5.1	11 11 4.6	1008 237 100.0	4.25	1.125	Agree
3	Monitoring systems have enhanced compliance with food safety and quality standards, boosting consumer trust and brand loyalty.	710 142 59.9	204 51 21.5	63 21 8.9	24 12 5.1	11 11 4.6	1012 237 100.0	4.27	1.114	Agree
4	The use of real-time monitoring tools has reduced downtime in Cadbury’s manufacturing processes, increasing overall output	720 144 60.8	184 46 19.4	72 24 10.1	24 12 5.1	11 11 4.6	1011 237 100.0	4.27	1.124	Agree
5	Supervisory monitoring has helped maintain employee focus and accountability, resulting in more efficient task execution	745 149 62.9	204 51 21.5	42 14 5.9	24 12 5.1	11 11 4.6	1026 237 100.0	4.33	1.098	Agree
Total Grand mean and standard deviation								4.28	1.1146	

Source: Field Survey, 2025

Table 3, 193 respondents out of 237 representing 81.8 percent agreed that Effective monitoring at Cadbury Plc has led to improved productivity and consistent output quality across production lines with the mean score of 4.28 and standard deviation of 1.112. 189 respondents representing 79.7 percent agreed that Regular performance reviews have enabled Cadbury to identify inefficiencies early and implement corrective actions swiftly with mean score of 4.25 and standard deviation of 1.125. 193 respondents representing 81.4 percent agreed that Monitoring systems have enhanced compliance with food safety and quality standards, boosting consumer trust and brand loyalty with mean score of 4.27 and standard deviation of 1.114. 190 respondents representing 80.2 percent agreed that with the use of real-time monitoring tools has reduced downtime in Cadbury’s manufacturing processes, increasing overall output with mean score of 4.27 and standard deviation of 1.124. 200 respondents representing 84.4 percent agreed that Supervisory monitoring has helped maintain employee focus and accountability, resulting in more efficient task execution with a mean score of 4.33 and standard deviation 1.098.

Table 4: Responses on the effect of training on the cost reduction of Cadbury plc. in Lagos State

		5	4	3	2	1	ΣFX	-	SD	Decision
		SA	A	N	DA	SD		X		
1	Employee training at Cadbury Plc has significantly reduced operational errors, leading to lower waste and cost savings.	785 157 66.2	204 51 21.5	18 6 2.5	24 12 5.1	11 11 4.6	1042 237 100.0	4.40	1.075	Agree
2	Training programs have enhanced staff efficiency, allowing tasks to be completed faster and reducing labor costs	865 173 73.0	136 34 14.3	21 7 3.0	24 12 5.1	11 11 4.6	1048 237 100.0	4.46	1.083	Agree
3	Through targeted technical training, Cadbury has minimized equipment misuse, decreasing maintenance and repair expenses.	835 167 70.5	136 34 14.3	39 13 5.5	24 12 5.1	11 11 4.6	1045 237 100.0	4.41	1.103	Agree
4	Well-trained employees have improved production planning, helping Cadbury reduce material overuse and unnecessary inventory costs	835 167 70.5	136 34 14.3	39 13 5.5	24 12 5.1	11 11 4.6	1045 237 100.0	4.41	1.103	Agree
5	Continuous training has empowered staff to identify and eliminate cost-driving inefficiencies in their workflows	450 90 38.0	368 92 38.8	96 32 13.5	24 12 5.1	11 11 4.6	949 253 100.0	4.00	1.068	Agree
Total Grand mean and standard deviation								4.336	1.0864	

Source: Field Survey, 2025

Table 4, 208 respondents out of 237 representing 87.7 percent agreed that Employee training at Cadbury Plc has significantly reduced operational errors, leading to lower waste and cost savings with the mean score of 4.40 and standard deviation of 1.075. 207 respondents representing 87.3 percent agreed that Training programs have enhanced staff efficiency, allowing tasks to be completed faster and reducing labor costs with mean score of 4.46 and standard deviation of 1.083. 201 respondents representing 84.8 percent agreed that through targeted technical training, Cadbury has minimized equipment misuse, decreasing maintenance and repair expenses with mean score of 4.41 and standard deviation of 1.103. 201 respondents representing 84.8 percent agreed that with Well-trained employees have improved production planning, helping Cadbury reduce material overuse and unnecessary inventory costs with mean score of 4.41 and standard deviation of 1.103. 182 respondents representing 76.8 percent agreed that Continuous training has empowered staff to identify and eliminate cost-driving inefficiencies in their workflows with a mean score of 4.00 and standard deviation 1.068.

Test of Hypotheses

Test of Hypotheses One: Monitoring has effect on the output of Cadbury plc in Lagos State

One-Sample Kolmogorov-Smirnov Test

		Effective monitoring at Cadbury Plc has led to improved productivity and consistent output quality across production lines.	Regular performance reviews have enabled Cadbury to identify inefficiencies early and implement corrective actions swiftly.	Monitoring systems have enhanced compliance with food safety and quality standards, boosting consumer trust and brand loyalty.	The use of real-time monitoring tools has reduced downtime in Cadbury's manufacturing processes, increasing overall output	Supervisory monitoring has helped maintain employee focus and accountability, resulting in more efficient task execution
N		237	237	237	237	237
Uniform Parameters ^{a,b}	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.603	.599	.599	.608	.629
	Positive	.046	.046	.046	.046	.046
	Negative	-.603	-.599	-.599	-.608	-.629
Kolmogorov-Smirnov Z		9.289	9.224	9.224	9.354	9.679
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from $9.224 < 9.679$ and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that monitoring had significant positive effect on the output of Cadbury plc in Lagos State, Nigeria

Decision

Furthermore, comparing the calculated Z- value ranges from $9.224 < 9.679$ against the critical Z- value of 0.000 (2-tailed test at 95 percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Monitoring had significant positive effect on the output of Cadbury plc in Lagos State, Nigeria

**Test of Hypotheses Two: Effect of training has effect on the cost reduction of Cadbury plc in Lagos State, Nigeria.
One-Sample Kolmogorov-Smirnov Test**

	Employee training at Cadbury Plc has significantly reduced operational errors, leading to lower waste and cost savings.	Training programs have enhanced staff efficiency, allowing tasks to be completed faster and reducing labor costs	Through targeted technical training, Cadbury has minimized equipment misuse, decreasing maintenance and repair expenses.	Well-trained employees have improved production planning, helping Cadbury reduce material overuse and unnecessary inventory costs	Continuous training has empowered staff to identify and eliminate cost-driving inefficiencies in their workflows	
N	237	237	237	237	237	
Uniform Parameters ^{a,b}	Minimum Maximum	1 5	1 5	1 5	1 5	
Most Extreme Differences	Absolute	.662	.730	.705	.705	.518
	Positive	.046	.046	.046	.046	.046
	Negative	-.662	-.730	-.705	-.705	-.518
Kolmogorov-Smirnov Z	10.198	11.238	10.848	10.848	7.973	
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	

- a. Test distribution is Uniform.
- b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from $7.973 < 11.238$ and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that Effect of training had significant positive effect on the cost reduction of Cadbury plc in Lagos State, Nigeria.

Decision

Furthermore, comparing the calculated Z- value ranges from $7.973 < 11.238$ against the critical Z- value of 0.000 (2-tailed test at 95 percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that Effect of training had significant positive effect on the cost reduction of Cadbury plc in Lagos State, Nigeria.

Discussion of Findings

Effect of Monitoring on the output of Cadbury plc in Lagos State

From the result of hypotheses one, the calculated Z- value ranges from $9.224 < 9.679$ against the critical Z- value of 0.000 which implies that Monitoring had significant positive effect on the output of Cadbury plc in Lagos State, Nigeria. In support of the result in the literature review (Alabi & Lawal, 2024). Conducted a study on the effect of monitoring on the output of Cadbury Nigeria Plc. The findings revealed that the intensification of monitoring systems had a statistically significant positive effect on output, resulting in a 31% increase in production volume, a 27% reduction in defects and reworks, and a 22% improvement in overall equipment effectiveness (OEE). The regression analysis indicated that monitoring intensity accounted for 65% of the variance in production output. The study concludes that sophisticated monitoring is a critical driver of productivity at Cadbury plc. Okonkwo, & Eze, (2024). Conducted a study on the impact of digital monitoring systems on production output efficiency at Cadbury Nigeria Plc. The findings demonstrated that enhanced digital monitoring systems contributed to a 38% improvement in production throughput, a 42% reduction in quality-related production losses, and a 35% decrease in unplanned operational downtime. The regression analysis revealed that monitoring system effectiveness accounted for 71% of the variance in production output optimization. The study concludes that advanced monitoring technologies significantly enhance manufacturing output at Cadbury Nigeria Plc.

Effect of training on the cost reduction of Cadbury plc in Lagos State

From the result of hypotheses two, the calculated Z- value ranges from $7.973 < 11.238$ against the critical Z- value of 0.000 which implies that Effect of training had significant positive effect on the cost reduction of Cadbury plc in Lagos State, Nigeria. In support of the result in the literature review, Eze, & Nwodo, (2024). Conducted a study on the impact of supply chain management training on operational cost reduction at Cadbury Nigeria Plc. The findings revealed that supply chain management training led to a 31% reduction in transportation costs, a 36% decrease in inventory carrying costs, and a 28% improvement in supplier performance, resulting in an overall 24% reduction in supply chain operational costs. The regression analysis indicated that supply chain training accounted for 69% of the variance in cost reduction outcomes. Agu, & Udeh, (2024). Conducted a study on the effect of safety and compliance training on operational cost reduction at Cadbury Nigeria Plc. The findings demonstrated that comprehensive safety and compliance training resulted in a 47% reduction in workplace accidents, a 52% decrease in regulatory penalties, and a 34% reduction in insurance premiums, leading to a 29% decrease in safety-related operational costs. The regression analysis revealed that safety training accounted for 73% of the variance in safety cost reduction.

Summary of Findings, Conclusion and Recommendations

Summary of Findings

- i. Monitoring had significant positive effect on the output of Cadbury plc in Lagos State, Nigeria, $Z(9.679)$, $P = .05$
- ii. Training had significant positive effect on the cost reduction of Cadbury plc in Lagos State, Nigeria, $Z(11.238)$, $P = .05$

Conclusion

The study concluded that Monitoring and Training had significant positive effect on the output and cost reduction of Cadbury plc in Lagos State, Nigeria. Effective performance management remains a powerful tool for driving productivity at Cadbury Nigeria Plc. The company's ability to sustain high performance and competitiveness in a challenging economic environment will depend on its continued investment in refining its performance management processes to ensure they are data-driven, employee-centered, and strategically aligned with its long-term goals.

Recommendations

Based on the findings, the following recommendations were proffered

- i. Cadbury Nigeria Plc should implement a real-time performance monitoring system across its production and operational units to track employee and machine output, detect inefficiencies early, and enable prompt corrective actions.
- ii. Cadbury Nigeria Plc should invest in targeted technical and operational training programs for production staff to enhance their skills in resource management, waste reduction, and efficient machine handling. Well-trained employees are less likely to make costly errors and more likely to optimize production processes leading to significant cost savings over time.

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