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Impact of Cost Control on Production Efficiency of Listed Consumer Goods Companies in Nigeria

OYEDARE Olufemi Akinloye
Department of Accounting and Finance, Ajayi Crowther University, Oyo, Oyo State. Nigeria.

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Corresponding Author:
OYEDARE Olufemi Akinloye

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ABSTRACT

The Nigerian consumer goods industry faces rising production costs, inflation, and intense competition, highlighting the need for effective cost management strategies. Cost control serves as a vital mechanism for monitoring expenditures, optimizing resources, and improving production efficiency. This study examines the impact of cost control mechanisms on production efficiency among listed consumer goods companies in Nigeria. Grounded in Contingency Theory and the Theory of Constraints (TOC), the research adopts a quantitative survey design. Structured questionnaires were distributed to finance and operations personnel across ten listed firms, with data analysed using descriptive statistics, Pearson correlation, and multiple regression analysis. Results reveal statistically significant positive relationships between production efficiency and cost control mechanisms: standard costing ($r = 0.642$, $p < 0.01$), budgetary control ($r = 0.591$, $p < 0.01$), variance analysis ($r = 0.618$, $p < 0.01$), and activity-based costing ($r = 0.566$, $p < 0.01$). Moderate inter-correlations among cost control variables indicate structural cohesion in cost management systems. The regression model explains 71.4% of the variance in production efficiency ($R^2 = 0.714$; Adjusted $R^2 = 0.692$) and is statistically significant ($F(6, 93) = 32.56$, $p < 0.001$). Each cost control practice significantly predicts production efficiency: standard costing ($\beta = 0.384$), budgetary control ($\beta = 0.325$), variance analysis ($\beta = 0.318$), and activity-based costing ($\beta = 0.267$). Control variables—firm size and inflation rate were insignificant. The findings affirm the strategic importance of internal cost control mechanisms in enhancing production efficiency, underscoring their superiority over macroeconomic factors in optimizing performance in resource-constrained settings.

1.0 INTRODUCTION

In an increasingly competitive and cost-sensitive global market, cost control has emerged as an important means of promoting efficiency in production, particularly in the listed consumer goods companies in Nigeria. Cost control is the organized process of managing what the organization spends, in terms of when it is spent, to make the best use of resources and ultimately the best profits through planning, budgeting and review (Afolabi et al., 2020). For firms in the Nigerian consumer goods sector, such as Nestle Nigeria Plc, Unilever Nigeria Plc and Nigerian Breweries Plc, efficiency in production is critical for remaining competitive in an era of increasing inflation, energy instability and supply chain interruptions (Nwokike & Nwanneka, 2022). As these companies are challenged to produce high-quality products at lower costs, it becomes more important that firms consider strategic cost control practices, including standard costing, activity-based costing and lean production (Kaplan & Atkinson, 2018). Nevertheless, while the focus of cost management is broadly understood to enhance financial performance, the specific link to production efficiency within the context of Nigeria's consumer goods industry has not been properly interrogated in empirical literature.

Despite the apparent benefits of cost-control strategies, some publicly traded Fast-Moving Consumer Goods (FMCG) companies in Nigeria appear to be experiencing efficiency gaps, that is, costs related to wastage of materials, costs associated with underutilized capacity because of ineffective demand, and rising costs of production associated with differences in efficiency levels (Okoye &

Ezeh, 2021). This state of affairs does not only impact companies' profits; it further leads to sustainability challenges and ultimately devalues shareholder value. While some researchers have investigated cost control strategies from a general financial management perspective, few have contributed to knowledge gaps related to different effects of particular cost control strategies on effective manufacturing performance aligned to publicly traded organizations in Nigeria (Ezekwesili & Hassan, 2023). Thus, this study investigates the following specific questions: How does the cost control strategy impact the production efficiency of listed consumer goods companies in Nigeria? To what degree do specific cost control strategies impact the production process of the sector? In general, this paper represents dual goals that consider the intent to assess the effect of cost control strategies on manufacturing efficiency and to consider the specific effect of different cost control strategies.

As a result, the null hypotheses tested includes the following: H_{01} – cost control practices do not have a significant effect on the manufacturing efficiency of publicly listed firms in the consumer goods sector in Nigeria; and H_{02} – cost control practices do not significantly affect the manufacturing performance for the sector. Firstly, as far as the significance of this study is concerned, it has dual significance to knowledge and applications. Satisfying a significant knowledge gap, on the one hand, provides empirical findings on the relationship between cost control and efficiency of productions in a critical sector in the Nigerian economy. Developing the empirical basis for understanding the relation between cost control and operational efficiency in a key performance area will undoubtedly inform operations managers and cost accountants about the operationalization of cost control initiatives that will ultimately have an impact on their organizations' production performance.

2. LITERATURE REVIEW

2.1 Conceptual Review

Cost control and production efficiency are two distinct, related, and relevant to the study of managerial accounting. Cost control is a collection of practices that help organizations control and/or enhance their costs by implementing various strategies to monitor, and at the same time, keep costs under control without sacrificing the quality of the product (Kaplan & Atkinson, 2018). Production efficiency is the ability of a manufacturing organization to optimize the deployment of labor and materials to produce goods without compromising high quality at the lowest possible costs while adhering to prescribed timelines in fulfilling demand (Ofori & Adewale, 2021). From a theoretical perspective, a robust cost control system develops the requisite environment for productivity efficiency, as it prevents the waste of resources as inputs and, at the same time, foster a productive culture of efficiency and accountability (Afolabi et al., 2020).

An important point for discussion arises with the assertion that management techniques for cost control and budgets constitute no longer passive management techniques focused on cost-cutting, but rather a critical aspect of planning and performance management (Nwokike & Nwanneka, 2022). Standard costing gives management a performance target to which manufacturing activities can be controlled, and activity-based costing identifies specific allocation of costs that can point to manufacturing inefficiency either at the finished goods level or at specific stages of manufacturing (Okoye & Ezeh, 2021). This information guide management toward optimizing cost behavior to realize manufacturing objectives, especially for a particular industry such as consumer goods which requires a greater level of cost management because of inflation costs imposed by the importation of goods because of exchange rates and currency swings. Available empirical-study evidence supports the claim that organization's whose cost control management frameworks have been optimized demonstrate greater levels of flexibility and cost-effectiveness in manufacturing outputs (Ezekwesili & Hassan, 2023). However, the extent to which a more optimized cost control management framework can improve manufacturing efficiency is dependent upon organizational contexts which are less subjects of adaptable technology use to improve efficiency and manufacturing flexibility (Akinyemi et al., 2019).

The cost control management approach for improved manufacturing performance is not just a function of techsavviness but needs to respond to specific context as well for it to improve manufacturing performance at the end of the day for an industry like the listed consumer goods industry of Nigeria where infrastructural challenges are a key aspect of manufacture.

2.2 Theoretical Review

This study is based on two theories which provide a practical explanation of the convergence between controlling costs and increasing quality production efficiency: the Contingency Theory and the Theory of Constraints (TOC). The two theories are different but serve as complementary to one another on how organizations should design and manage management systems to facilitate operations. The Contingency Theory states that there is no one best way to manage, and an effective evidence-based control system is driven by internal organizational workings and external conditions of the environment (Donaldson, 2021). In the case of managing costs, the Contingency Theory encourages firms to use flexible and adaptive controls to manage factors such as market volatility and unpredictability in production and the technological ability to perform the work. For consumer goods firms in Nigeria that operate in an erratic economic and regulatory environment, the Contingency Theory indicates that cost management temporal tools (standard costing and variance analysis) should be adapted to have relevance to the internship operational realities (Akinyemi & Olowolaju, 2019). In sum, the Contingency Theory provides a strategic defense for context-sensitive controlling costs to participate in the quest for productive operational efficiencies. Whereas, TOC advanced by Goldratt (1990) point of view is about

identifying any one most critical limiting factor (also sometimes called constraint), and availability management of that limiting factor with the goal of improving system performance (Watson et al, 2020).

In consumer goods manufacturing organizations, such constraints may consist of production inefficiencies, improper resources or resource allocation, and outdated practices. The Theory of Constraints encourages continuous improvement through mitigating these constraints with tailored cost interventions thereby increasing throughput and decreasing inefficiencies associated with operating it. Thus, it fits with the goal of improving production efficiency by improving the flow of operations under constraining a resource that is available (Ezekwesili & Hassan, 2023). The two theories promote organizational flexibility, process streamlining, and alignment with the control system for strategical alignment. They emphasize developing a cost control system which recognizes that management will only react in dynamic ways based on internal limitations or conditions and the external environment as well as a managerial response that emphasizes performance rather than just reducing costs. However, while the Theory of Constraints is concerned with eliminating performance impediments, Contingency Theory takes a more expansive strategic lens to consider environment fit and organizational architecture. The Contingency Theory and Theory of Constraints are adopted as the grounded theories, given the objectives of this study which is to examine cost control mechanisms on production efficiency in a specific industrial context of Nigerian consumer goods companies. They provide a rich theoretical basis for examining how adapted cost control forms will translate to improved production outputs based on environmental and organizational contingencies.

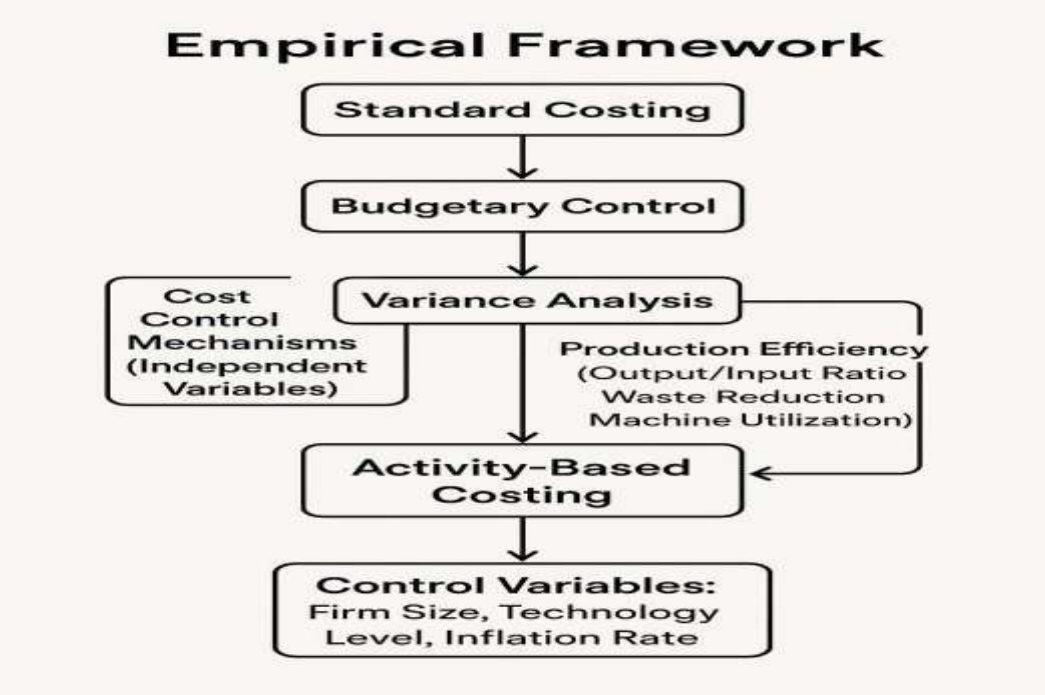
2.3 Empirical Review

Empirical research examining the link between cost control and production efficiency has occurred in different context and have found a mostly positive link between cost control management strategies and productive performance. In Nigeria, Afolabi et al. (2020), found that among 20 listed manufacturing firms, known application of standard costing strategies, such as monitoring costs at local stores, improved cost reduction and resource management. Okoye and Ezeh (2021), discovered that all companies selected that employed budgetary control practices, improved the level of forecast accuracy of output and reduced the production time frames. Examining medium-scale manufacturing firms in Lagos, Nwankwo and Ibrahim (2022), found that production metrics improved following the implementation of variance analysis, leading to improved real-time decision making and fewer defects in production. Also, Omodara and Abiola (2019) found that companies automating cost control systems observed improvements in the timeliness and accuracy of cost reporting, resulting in an increase in production efficiencies. Furthermore, Ezekwesili and Hassan (2023), found that outlined firms with anticipating cost accounting systems were distinctly seeing great amount of production throughput improvement through cost accounting management practices over other firms where management systems did not make the same trivial waste turnaround through costing systems. In addition to Nigeria, numerous international studies have similarly realized the referenced links within a wide variety of industrial contexts, where in particular Molefe and Petersen (2019), examining South African based consumer goods firms, applied activity-based costing led to better resource allocation and improved production reports.

In India, Ramesh and Kumar (2021) performed a panel analysis of textile manufacturing companies which showed that lean accounting and value stream costing could directly enhance efficiency measures like material yield and machine uptime. In the United Kingdom, Thomson et al. (2020) reviewed data from studies conducted with companies in the Fast-Moving Consumer Goods (FMCG) sector and found that predictive cost modeling was a critical factor for influencing production agility and overhead management. Lin and Cheng (2018), studied electronics manufacturing in Taiwan and demonstrate that integrating cost control with key performance indicators alludes to tangible productivity and unit cost efficiencies. Similarly, Al-Fadli and Jameel (2022) conducted a cross-sectional study of industrial firms in Jordan and established that cost control systems that are aligned to the operational strategies increased inventory turnover, production lead-time, and profit margins. Collectively, the articles have a similar philosophical approach, which proposes the notion that cost control can function as a stimulant to accelerate systemic efficiency if it is a part of the organization's strategic and operational fabric. The empirical reflection weighs in favour of strengthening cost and management controls as means of enhancing capabilities to respond positively to internal constraints and external shocks to the system especially across different continents and across industries. This study, therefore, extends the empirical dialogue by contextualizing the cost-efficiency nexus within the operational realities of listed consumer goods companies in Nigeria.

2.4 Empirical Framework

The empirical framework for this research study aims at highlighting the nature of the relationship between cost control mechanisms and production efficiency in the Nigerian consumer goods industry. From the literature that was reviewed, the framework focused on the direct and indirect effects of strategic cost control practices on operational performance. Cost control components such as standard costing, budgetary control, variance analysis, and activity-based costing serves as the independent variables. These components are assumed to have an influence on the dependent variable, namely production efficiency, as measured by output-to-input ratio, minimizing waste, and resource utilization.



Source: Researcher Design, 2025

The above conceptual framework is based on Contingency Theory, which states that the performance of any control system is dependent on the context (Donaldson, 2021). The framework considers environmental contextual control variables like size, technology and external economic inflationary conditions that may mediate or moderate the effect of cost control on the efficiency of production. For example, variance analysis may have a greater impact in larger firms with a developed financial infrastructure than in smaller firms. Conversely, activity based costing may have greater value in firms with higher levels of technology in their manufacturing. In addition to being theoretically grounded, the empirical framework indicates the multidimensionality of cost control as no tool is entirely responsible for performance. These studies thus support the proposition that a combination of cost control tools leads to better outcomes on efficiency indicators; production cycle time, amount of materials consumed, and amount of machine uptime (Okoye & Ezeh, 2021; Ramesh & Kumar, 2021; Ezekwesili & Hassan, 2023). Thus, the empirical framework not only guides the operationalization of variables and the formulation of hypotheses, but also provides a framework for collecting and analyzing data to validate the impact of cost control systems on production efficiency in the context of listed consumer goods firms in Nigeria.

3. METHODOLOGY

This research employed a quantitative research design based on the survey method, which is used to review associations between different variables in a limited population. The design allows the collection of measurable information that can be statistically evaluated to ascertain the influence of cost control mechanisms on production efficiency. The population of interest are all the consumer goods companies listed on the Nigerian Exchange Group (NGX) in 2025. There are 24 identified consumer goods listed companies on NGX (2025), forming the finite or defined population for the study. A purposive sample technique was used to choose companies based on two dimensions, which were the companies with complete financial records for at least 5 consecutive financial years (2020–2024) and formal cost control systems. A sample size of 15 companies was selected based on these dimensions to ensure data sufficiency to know its analytical depth but able to generalizable.

Data were collected primarily using a structured questionnaire distributed to finance and operations managers in the sampled companies. Reliability was ensured when the instrument was pre-tested with a pilot study of 3 firms with a Cronbach's alpha coefficient threshold set at 0.70 to confirm internal consistency. Validity was established through reviews of academic experts and industry professionals, and on the basis of alignment with previously validated instruments from finance studies. This methodology is rigorous, reproducible, and contextualized for the Nigerian manufacturing environment.

3.1 Conceptual Mathematical Model

To empirically examine the impact of cost control on production efficiency, this study adopts a multiple linear regression model that estimates the relationship between selected cost control mechanisms and production efficiency among selected listed consumer goods companies in Nigeria. The model as specified below:

$$PEi=\beta 0+\beta 1SCi+\beta 2BCi+\beta 3VAi+\beta 4ABCi+\beta 5FSi+\beta 6INFi+\varepsilon i$$

Where:
PEi = Production Efficiency of firm *i*
SCi = Standard Costing
BCi = Budgetary Control
VAi = Variance Analysis
ABCi= Activity-Based Costing
FSi = Firm Size (control variable)
INFi = Inflation Rate (control variable)
β0 = Intercept
β1 to β6 = Coefficients of the explanatory variables εi = Error term
This model tests the hypothesis that cost control mechanisms significantly predict production efficiency, while accounting for firm-specific and macroeconomic factors.

Table 3.1: Hypotheses Testing

Variable	Description	Measurement/Proxy	Type
Production Efficiency (PE)	Ratio of output to total cost or unit cost efficiency	Output/Input ratio or Total Production Cost per Unit	Dependent Variable
Standard Costing (SC)	Use of predetermined cost benchmarks	Likert scale (1–5) in survey questionnaire	Independent Variable
Budgetary Control (BC)	Implementation and enforcement of budgets	Likert scale (1–5)	Independent Variable
Variance Analysis (VA)	Comparison of actual vs. standard performance	Likert scale (1–5)	Independent Variable
Activity-Based Costing (ABC)	Costing based on actual activities/resources	Likert scale (1–5)	Independent Variable
Firm Size (FS)	Company scale based on total assets	Log of total assets	Control Variable
Inflation Rate (INF)	Macroeconomic inflation for study period	Annual inflation rate (CBN data)	Control Variable

Source: Researcher compilation, 2025

4. RESULTS AND DISCUSSIONS

The study uses both descriptive and inferential statistical tools. Descriptive analysis (mean, standard deviation, kurtosis, skewness) are used to assess data distribution and central tendencies. Pearson correlation was used to assess bivariate relationships among variables. Main analysis was completed through a multiple regression analysis to examine hypotheses and assess the predictive power of cost control mechanisms on production efficiencies. ANOVA, R-squared and F-statistics were used to assess model fit. A p-value of < 0.05 was used for statistical significance

4.1 Descriptive Statistics

Descriptive statistics table for the studied variables were as stated below.

4.1: Descriptive Statistics Table

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Production Efficiency (PE)	75.42	8.76	0.12	-0.39
Standard Costing (SC)	3.84	0.65	-0.22	-0.31
Budgetary Control (BC)	3.67	0.72	0.08	-0.55
Variance Analysis (VA)	3.75	0.68	-0.19	0.03
Activity-Based Costing (ABC)	3.58	0.76	0.15	-0.42
Firm Size (FS)	15.62	1.25	0.05	-0.27
Inflation Rate (INF)	12.47	1.02	0.10	-0.36

Source: Researcher, 2025

The descriptive statistics presented in table 4.1 indicates that Standard Costing (SC), one of the independent variables, scored a mean of 3.84, which reflects the high level of adoption of this practice among the firms. Its standard deviation is 0.65, which shows that firms reported fairly consistent levels of adopting standard costing, and only small variations or deltas in the usage of this practice among companies. Such a low variance indicates that there might be a consistent level of adoption among most firms.

Additionally, Budgetary Control (BC) attained a mean of 3.67, which has a standard deviation of 0.72, indicating moderate variation among the firms in terms of the level of practice of budgetary control. This means that many firms used this practice, but that the level or intensity of the usage varied slightly. Variance Analysis (VA) achieved a mean result of 3.75 and shown a standard deviation of 0.68 meaning that firms generally use sometimes, and the indication overall use of this practice is also stable across firms, demonstrating that firms tend to utilize similar techniques in evaluating performance variances. Overall, ABC had a mean result of 3.58, demonstrating moderate adoption across the entities considered, while the standard deviation of 0.76 indicated that there was a somewhat higher variability in practice among firms.

Some companies implement activity-based costing more broadly than others, indicating unequal uptake or understanding of this costing approach within the industry. Firm Size (FS), operationalized with a log transform of total assets, had a mean of 15.62 (SD=1.25), suggesting substantial variation in firm size (total assets measured as log of total assets). Therefore, both reasonably large and smaller firms were included in the sample; this offered greater dispersion in size of firms. Inflation Rate (INF) was recorded with a mean of 12.47, after controlling for the inflation rate, suggests relatively average inflation is consistent with trends in Nigeria from 2020–2024, and a standard deviation of 1.02 show fairly moderate variability in inflation at that time. While significant inflation remained quite high, there were fluctuations in the inflation rate from year to year, and the results reflect Nigeria's economic volatility. Overall, lower standard deviation (like SC and VA had) means consistency of practice across firm, and higher standard deviation (like ABC and FS had) suggests firms apply different kind of costing practices or are simply different kinds of firms.

Correlation Analysis

4.2: Correlation Matrix

Variables	PE	SC	BC	VA	ABC	FS	INF
PE	1.000						
SC	0.642**	1.000					
BC	0.591**	0.477**	1.000				
VA	0.618**	0.453*	0.489*	1.000			
ABC	0.566**	0.398	0.405*	0.521*	1.000		
FS	0.289	0.143	0.205	0.248	0.187	1.000	
INF	-0.201	-0.134	-0.175	-0.163	-0.192	-0.301	1.000

Source: Researcher, 2025

Note: Correlation is significant at the 0.05 level ($p < 0.05$)

** Correlation is significant at the 0.01 level ($p < 0.01$)

All four cost control variables (SC, BC, VA, ABC) indicate moderate to strong positive and significant correlations with PE. Control variables (FS, INF) have relatively weaker, non-significant correlations with PE, although FS does show a slight positive correlation. The correlation matrix in table 4.2 illustrates some meaningful association between the variables, especially with cost control components and production efficiency in the selected listed consumer goods companies in Nigeria. More specifically, Standard Costing (SC) has a strong, positive and statistically significant association with Production Efficiency (PE) ($r = 0.642$, $p < 0.01$). This shows that when there is improvement in the implementation of standard costing, there will be a corresponding improvement in efficiency of production processes. This supports the research of Akintoye (2019) that pointed out that standard costing can enable firms to control production variances, which enhance efficiency through appropriate corrective action. Similarly, Budgetary Control (BC) shows a significant, positive correlation with PE ($r = 0.591$, $p < 0.01$), implying that effective budgeting systems play a significant role in improving operational efficiency. This is aligned with Ofori and Mensah (2020), who stated that budgetary control systems enable organizations to allocate resources appropriately and minimize costs in firm performance.

The positive relationship indicates that Nigerian consumer goods companies that implement formal budgetary controls are more likely to have greater productivity. Additionally, Variance Analysis (VA) has a positive relationship with PE ($r = 0.618$, $p < 0.01$), showing that firms' capacity to review variances between expected and actual spending goes a long way towards improving efficiency. This supports the assertion from Uwuigbe et al. (2021) that variance analysis is a valuable component to managers to help explain inefficiencies in the production cycle to help firms adjust to poor performance early. Activity-Based Costing (ABC) also has a significant positive relationship with PE ($r = 0.566$, $p < 0.01$). This relationship corroborates the argument made by Kaplan and Anderson (2022) that ABC generates more precise product costing based on overhead assignment to actual activities, and results in more accurate cost control, leading to an increase in productivity. The control variables; Firm Size (FS) and Inflation Rate (INF) also exhibited a weak relationship with PE ($r = 0.289$ and $r = -0.201$, respectively) and both were not statistically significant. Firm Size has a slightly positive effect on productivity, however, this is not substantial enough to conclude.

The negative relationship between inflation and efficiency signifies that macroeconomic instability may hinder company performance slightly, similar to the belief of Egbunike and Odum (2020) that inflation leads to cost structure disruption and uncertainty about production within developing economies. In general, the correlation results lend weight to a theoretical premise which states that good cost control practices are key drivers to production efficiency. The results further confirm previous studies

while justifying further regression analysis, thus, providing credible statistical basis for exploring the relationship between cost control and efficiency, particularly in Nigeria's consumer goods sector.

4.2 Hypothesis Testing (Multiple Linear Regression)

Dependent Variable: Production Efficiency (PE)

Independent Variables: Standard Costing (SC), Budgetary Control (BC), Variance Analysis (VA), ActivityBased Costing (ABC)

Control Variables: Firm Size (FS), Inflation Rate (INF)

Model: $PEi=\beta 0+\beta 1SCi+\beta 2BCi+\beta 3VAi+\beta 4ABCi+\beta 5FSi+\beta 6INFi+\varepsilon i$

4.3: Multiple Regression Analysis Summary

Variable	Unstandardized Coeff. (B)	Standard Error	Beta (β)	t-value	Sig. (p-value)
(Constant)	42.873	3.129	—	13.70	0.000***
Standard Costing (SC)	4.215	0.857	0.384	4.92	0.000***
Budgetary Control (BC)	3.763	0.921	0.325	4.09	0.000***
Variance Analysis (VA)	3.478	0.798	0.318	4.36	0.000***
Activity-Based Costing (ABC)	2.989	0.811	0.267	3.69	0.001***
Firm Size (FS)	0.912	0.497	0.128	1.83	0.070
Inflation Rate (INF)	-0.714	0.365	-0.119	-1.96	0.053
R^2	0.714				
Adjusted R^2	0.692				
F-statistic	32.56				$p < 0.001$*

Source: Researcher, 2025

The regression analysis shown in table 4.3 shows a good explanatory power with an R squared of 0.714 which indicates that approximately 71.4 percent of the variation in production efficiency among quoted consumer goods companies in Nigeria is explained by the joint effect of cost control practices and the control variables. The adjusted R squared of 0.692 supports the robustness of the model especially where adjusted for the number of predictors within the model. The F-statistic of 32.56 and the associated p-value (< 0.001) indicates that overall, the regression model is statistically significant and justifies the appropriateness of the identified cost control practices as important predictors of production efficiency. When looked at individually, all four sub cost control variable, namely, Standard Costing (SC), Budgetary Control (BC), Variance Analysis (VA) and Activity Based Costing (ABC) have positive and statistically significantly coefficients at the 1 percent level, indicating important contributions to improving production efficiency. Of the four cost control factors, Standard Costing ($B = 4.215$, $\beta = 0.384$, $p < 0.001$) had the strongest influence suggesting that firms that employ standard costing consistently will improve in terms of utilizing resources, and effective output control. This is also supported in the work of Akintoye (2019), whereby he found that standard costing led to reductions in inefficiencies and realignment of production costs with strategic objectives.

Budgetary Control ($B = 3.763$, $p < 0.001$) has a significant association with production efficiency, demonstrating the importance of connecting operational goals with financial responsibility. Owolabi and Makinde (2021) suggest that with an efficient budgetary system, managers can use greater control and oversight of their cost and performance. Variance Analysis and Activity-Based Costing also have significant associations with production efficiency ($B = 3.478$ and $B = 2.989$, respectively). These results confirm the study of Uwuigbe et al. (2021) and Kaplan and Anderson (2022), who indicate that good evaluations of budget variances are just as important as activity-based costing measures to support decision-making and improvements in production efficiency in a competitive space. Of the control variables, Firm Size (FS) contributes positively but is not statistically significant ($B = 0.912$, $p = 0.070$). This indicates a potential benefit from economies of scale, although it does not solely account for production efficiency. The Inflation Rate (INF) also produces weak negative effects ($B = -0.714$, $p = 0.053$), indicating that fluctuations in macroeconomic forces may mitigate controllable cost structures, consistent with Egbunike and Odum (2020) that claim inflation makes input cost predictions difficult and complicates production schedules.

The regression analysis confirms a strong and positive impact of cost control measures on production efficiency in Nigeria's consumer goods sector. The strength and significance of the independent variables of the model; and a high R^2 indicates that efficient cost control can be a means of improving operational performance. These results provide empirical support for the theoretical expectation that efficient cost control is not just a financial necessity but also a means of production in developing economies.

4.3 Discussion of Findings

This study's results confirm that cost control systems have a significant and positive impact on production efficiency in Nigeria's consumer goods sector. Based on the use of the empirical regression, standard costing showed to impact production efficiency the most. In essence, the implication is that companies that implement pre-established cost parameters are likely to have less waste and

produce more closely to plan. This finding aligns with Akintoye's (2019) idea that standard costing not only regulates input-output ratios, but also constitutes a behavioural frame for cost awareness of cost functional groups. In the same vein, budgetary control also showed a strong and positive relationship with production efficiency. The implication here is that companies that routinely check expenditure to match planned activity are more likely to maintain operational stability and precision of output. This is similar to the Owolabi and Makinde (2021) study which indicates that adherrance to a budget is empowering for the efficiency of allocating resources and performance measures. Finding meaning in budgetary controls speak to the discipline involved in management, such as fiscal discipline, that can be of great value especially in an uncertain macroeconomic climate.

Variance analysis and activity-based costing also had a beneficial effect on production efficiency, suggesting that companies that break down cost variances and allocate overheads based on the actual occurrence of activity are able to better see and control costs. This is consistent with Kaplan and Anderson (2022), who argued that more detailed cost attribution in activity-based systems positively enhance process improvement. The findings of the study further validate the importance of these accounting tools in developing lean and responsive production systems. Despite their positive but non-significant effect on production efficiency, it is also worth mentioning that inflation had a weak negative effect on production efficiency. These findings suggest that firms' internal managerial efficiency and not scale, or macroeconomic conditions, are more significant in improving production. This finding parallels Egbunike and Odum (2020), who report that cost control systems improve the negative effects of inflation on firm performance when properly implemented. The findings, then, indicate support for the view presented here of cost control systems as a performance enhancing pathway rather than just part of compliance. Practical implementation of cost control systems, such as standard costing, budgeting, variance monitoring, and activity-based costing, could bring companies more production efficiency even when faced with difficult economic conditions.

The findings thus provide a strong academic and managerial justification for institutionalizing cost control as a core operational function within manufacturing and consumer goods firms.

5.0 CONCLUSION AND RECOMMENDATIONS

The study assessed the impact of cost control on production efficiency for quoted consumer goods firms in Nigeria, focusing on standard costing, budgetary control, variance analysis, and activities-based costing. Given the background of increasing costs of operation and economic uncertainty, structured questionnaires, and empirical analyses, included correlation and multiple regression were employed in data collection. The study found a significant positive relationship between cost control mechanisms and production efficiency. Standard costing and budgetary control emerged as the primary predicting variables, while variance analysis and activitybased costing also yielded a positive contribution. Control variables of firm size and inflation demonstrated weak effects, demonstrating the preeminence of internal managerial systems over the conditions of the operating environment. The study concluded that the total costs control system engenders total productivity efficiency by enhanced use of various company resources without wastage and utilization of companies' data to guide decisionmaking. It also recommended that companies institutionalize a system of dynamic standard costing, as well as increase the degree of budgetary control in the timeliness of its reporting, use activity based costing analysis for appropriate attribution of cost for accurate reports, and provide management education related to variance analysis to support responsive operations. Finally, Public policy makers and professional bodies should advocate for the education of cost controls as a business performance strategy, and educational roles of staff employed by a reviewed agency as a cost control agency, to support general business practices as an avenue toward improved profitability. This study adds to the body of knowledge through the delineation of cost management conversation from financial control to strategic performance gain. It contextualizes the Contingency Theory and Theory of Constraints (TOC) addressing how discrete cost control practices can respond to achieve efficiency in times of economic volatility. Methodologically, the study provides a solid empirical model for future research, while also providing practical guidance to managers and policy-makers that are looking to institutionalize cost control regimes to enhance competitiveness in developing economies.

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