LEAN ACCOUNTING PRACTICES AND CORPORATE VALUE CREATION: EVIDENCE FROM NIGERIAN MANUFACTURING FIRMS

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Abstract
The research problem of this paper is to examine how lean accounting practices can affect corporate value creation of Nigerian manufacturing companies based on proxies; Economic Value Added (EVA) and Cash Return on Assets (CROA). The data used a sample of 39 listed manufacturing companies in the period of 2012 to 2024 of with secondary data sourced from audited annual reports and Nigerian Exchange (NGX) Group's factbooks. The data were analyzed using a panel least squares method with fixed effects. The findings indicate that lean accounting practices as a whole affect both EVA and CROA, which emphasizes the significance of operational and financial strategies in the integration of the business to increase the shareholder value. Although each of the variables separately, including Employee Productivity Ratio, Customer Lead Time, Direct Value Stream Cost and Lean Efficiency Ratio, did not exhibit significant differences, their interaction had a significant impact on explaining differences in corporate value creation. This study concludes that it is important to implement the holistic lean accounting strategies to enhance efficiency and maintain corporate value creation within the Nigerian manufacturing sector. According to the results, the research suggests that companies should adopt lean principles as a concerted effort, maximize the leverage utilization, and keep an eye on both operational and financial indicators to convert the efficiency improvement into a quantifiable value creation.

Keywords:Cash return on assets (croa), corporate value creation,economic value added (eva),lean accounting practices, nigerian manufacturing firms.

1.0Introduction

With the growing dynamic and competitive business world, manufacture organizations are under increasing pressure to enhance operational effectiveness and at the same time generate sustainable value to the shareholders. The traditional accounting approaches are also inclined to look at the only limited areas like cost containment and profitability ratios, which are not quite representative of the degree to which operational enhancement is associated with corporate value creation. Lean accounting has thus become a strategic method of management, which combines both the efficiency of operations with the financial reporting, which allows a firm to strive to eradicate waste, simplify operations, and ensure that internal management practices have the goals of value creation (Chikwendu&Alaribe, 2025). Lean accounting enables managers to focus on taking practical action using, through performance measures like Employee Productivity Ratio, Customer

Lead Time, Direct Value Stream Cost, and Lean Efficiency Ratio, to give managers a bridge between the daily activities of the company and the long-term shareholder value.

Lean accounting practices will add value to the corporate in direct proportion to the operational efficiency, waste reduction, and better use of resources. A corporate value creation is that of a firm which is capable of generating returns that are greater than the cost of capital and thus improving on the shareholder wealth. This idea is usually operationalized in empirical accounting and finance studies by financial performance indicators that reflect economic profitability and efficient exploitation of corporate resources. Economic Value Added (EVA) and Cash Return on Assets (CROA) are used as the measure of corporate value creation in this research. EVA is used to determine the amount of residual income after taking into consideration the cost of capital and hence the company earns economic value to its shareholders (Rappaport, 1986; Stewart, 1991). On its part, CROA assesses how efficiently firms utilize their assets base to generate cash flows thus indicating the capacity of the firm to transform invested resources into cash-based returns (Iliemena, Ijeoma&Uagbale-Ekatah, 2023). These measures achieve a complete evaluation of corporate value creation, by encompassing the value creation, which is not below the cost of capital and the efficiency of asset utilization.

Despite the growing use of lean practices by companies, there is still empirical evidence of the association between lean accounting practices and the creation of corporate value in the Nigerian manufacturing industry. The literature reviewed above has mostly looked at lean practices in the context of an operational effectiveness or a profitability metric in isolation (Obeng, 2023; Onuoha&Igwe, 2025), which has created a gap in the knowledge of how all lean accounting practices jointly affect the creation of corporate values.

This research aims to fill this gap and discuss the influence of lean accounting practice on corporate value creation in listed manufacturing companies in Nigeria. In particular, the research will examine the impact of Employee Productivity Ratio, Customer Lead Time, Direct Value Stream Cost and Lean Efficiency Ratio on a corporate value creation, as represented by EVA and CROA, and adjusting by firm specific attributes, including firm size and leverage. In this way, the empirical evidence of the strategic relevance of lean accounting in improving the sustainable corporate value creation will be supported, and managers and investors in the Nigerian manufacturing industry will gain practical insights about the relevance of lean accounting.

2.0Literature Research/Theoretical Framework.

Lean Accounting Practices

Lean accounting represents a management style that integrates financial reporting with operational efficiency, value creation, and waste removal to overcome most of the constraints of the traditional accounting systems (Okafor&Chinedu, 2023; Ogunlade, 2023; Iliemena, Goodluck and Amedu, 2019). Lean accounting is not based on periodic accumulation of costs as traditional accounting systems, but rather on simplified reporting, real-time performance measurement, and continuous tracking of value stream activities (Akinwale and Obi, 2021; Ma, Akande and Umeh, 2016). In the field of empirical research, lean accounting practices are operationalized by indicators that reflect the efficiency and the utilization of the resources involved in the production processes. Employee Productivity Ratio (EPR), Customer Lead Time (CLT), Direct Value Stream Cost (DVSC) and Lean Efficiency Ratio (LER) are the proxy variables that indicate lean accounting in this study (Musa and Ogunyemi, 2024; Ogunleye, 2012). These indicators are based on the information that is reported in the annual report and financial statements of the firms. As an example, EPR is

calculated based on revenue and employee-related data, DVSC is calculated based on direct production costs that are reported in cost of sales, CLT is calculated based on operational efficiency as shown by the information on inventory and receivable turnover, and LER is calculated as the ratio of value-adding and operating costs (Gibson, 1992). These measures will give a clue on the extent to which operational efficiency can be translated into better financial performance and value creation within manufacturing companies.

Corporate Value Creation

Corporate value creation is the capacity of a company to give returns that are beyond its cost of capital but with an efficient use of the resources. This is an idea that is widely used in accounting and financial literature as Economic Value Added (EVA) and Cash Return on Assets (CROA) (Rappaport, 1986; Stewart, 1991). EVA is the amount of income left after subtracting the cost of capital to Net Operating Profit after Tax (NOPAT), which is the way of showing the economic value added to the shareholders (Iliemena, Ijeoma&Uagbale-Ekatah, 2023). CROA in turn is the efficiency of corporate generation of cash flows based on its assets. Combined, these measures are able to capture the economic profitability and cash-based operational performance. It is assumed that lean accounting activities can contribute to creating corporate values by facilitating operational efficiencies, minimizing non-value-added operations, and increasing the ability of the firms to yield sustainable cash returns (Ogunlade, 2023; Okafor and Chinedu, 2023).

Firm Size and Leverage

Factors that could affect corporate value creation include firm-specific factors like size and leverage. Economies of scale, wider resources base, and capacity to execute operations may also be advantageous to larger firms, and thereby greater effectiveness of lean accounting practices may be created to generate shareholder value (Chukwuma, 2022; Samuel and Eze, 2015). Leverage has an impact on the value creation by changing the financial risk and return structure of companies. Although a moderate debt volume can lead to higher returns and the impact of operational efficiency on value creation, a high level of leverage can amplify the financial risk, and value of the firm (Ali and Rahman, 2021; Onuoha and Igwe, 2025). Thus, both firm size and leverage are incorporated as the control variables, so that the relationship between the lean accounting practices and the corporate value creation may not be distorted by the changes in the firm size or capital structure.

Empirical Review of Extant Studies

Recent researches emphasize the impact of lean accounting and its practices on corporate value creation even though most dwelt more on financial performance measures instead. Chikwendu and Alaribe (2025) analyzed lean accounting by using the ratio of employee productivity in terms of revenue per employee, as well as the impact on return on assets (ROA) in 32 listed companies (2018-2023). The panel regression analysis showed that there was a significant positive relationship which is statistically significant, meaning that the greater the output per employee, the better the asset utilization and hence profitability. Nevertheless, the research failed to consider the variation in labour intensity by sub-industries, which can cause bias. Equally, Ajibola and Eyo (2024) explored the role of lean accounting through employee efficiency through productivity ratios and structured questionnaires and secondary data and concluded that there was a small positive impact on earnings per share (EPS). The poor interconnection was explained by the duplication and workflow obsolescence and was not regulated by more macroeconomic aspects.Obeng (2023) evaluated workforce productivity, revenue-to-employee cost on ROA (lean accounting) on 10 Ghana listed firms (2012-2021). The panel regression analysis established that

there was a significant positive effect, but value-based measures like EVA were not a part of the study. Chukwuma (2022) also investigated lean accounting by using labour productivity and discovered that there are major gains in the utilization of assets, but the exclusion of the firm size and leverage provided some form of bias. Ali and Rahman (2021) examined lean accounting through human capital efficiency in textile companies in Bangladesh and found that it had a strong positive impact cash return on assets (CROA) but the outcomes were industry specific. In the same way, Iliemena, Goodluck, and Amahalu (2019) gauged lean accounting by measuring human capital performance in the Nigerian banks and discovered that ROA, ROE, and EPS showed significant improvement, albeit the concentration on banking reduces the applicability of the study to manufacturing. Previous researchers, such as Ahmed and Musa (2018), Eze and Chijioke (2017), and Okon and Etim (2016), support that lean accounting through labour productivity ratios has a positive impact on CROA, EVA, and asset utilization, although small sample sizes and cross-sectional designs also limit them.

There is also a connection between the lean accounting practices that focus on operational efficiency and low lead times and the enhancement of profitability. Onuoha and Igwe (2025) investigated lean accounting by using customer lead time (CLT), and the study discovered that the reduction in the lead time resulted in greater sales turnover, net profit margin, and inventory efficiency. Musa and Ogunyemi (2024) quantified lean accounting through the lead time optimization and found that it has significant improvements on gross profit margin but the impacts on ROE were insignificant. Abubakar (2023) identified a positive impact of lean accounting with the help of shortened lead times on the EVA and operational efficiency as a source of value creation.One of the important lean accounting practices is direct production cost control that has been greatly researched. Balogun and Adetunde (2017) analyzed lean accounting through direct value stream cost and discovered that the reduction of production costs enhanced the net asset turnover. Direct production costs per unit were the measure of lean accounting taken by Ibrahim and Eze (2016) with higher ROA and EVA, yet endogeneity concerns were left. Samuel and Eze (2015) and Jide and Nwosu (2014) affirmed that cost management under lean accounting resulted in increased asset use, CROA, and net profit margins. The evidence obtained by the authors of the study by Kumar, Ayodeji, and Hassan (2014) across countries indicated that lean accounting through production cost efficiency was associated with increased asset turnover, but contextual differences restricted comparability.

Having narrowed down on lean accounting in Nigeria, Ma, Akande, and Umeh (2016) and Ojo and Musa (2015) utilized lean efficiency ratios to demonstrate improved asset utilization and financial performance. Usman and Ugwu (2013) concluded that lean accounting in terms of lean efficiency ratio had a modest improvement in cash returns whereas Ogunleye (2012) associated lean accounting through operating profit- to -cost ratio with the improvement in EVA, ROA and EPS. Onoja and Ahmed (2014) and Kalu and Brown (2015) also reported that the lean accounting by using efficiency ratios enhanced the CROA, Q of Tobin and EVA. Similar results were observed by Adeyemi and Nweke (2012) who verified that cost-to-profit management is a strategic factor.

Gap in Extant Literature

Regardless of increasing attempts on lean accounting and its impacts on corporate value creation, there are still a number of gaps that support this current study. To begin with, the majority of the current research in Nigeria has been mainly based on operational efficiency indicators, e.g.,

employee productivity ratios, lead times and direct production cost, but not on value based financial performance indicators, e.g., Economic Value Added (EVA) and Cash Return on Assets (CROA). Although the studies by Abubakar (2023), Musa and Ogunyemi (2024), and Usman and Ugwu (2013) support the correlation between lean practices and value creation, but extant studies either consistently used a conventional set of financial metrics (ROA, ROE, net profit margins) or failed to consider both the efficiency and the value creation metrics at the same time, thereby restricting the comprehension of the overall impact of lean accounting on corporate value.Second, the available literature mostly adopts limited sectoral or firm-based methodologies, usually focusing on a sub-sector (examples: textiles, pharmaceuticals, consumer goods) or small sample, and can thus not be generalized to the Nigerian manufacturing sector. The cross-country research (e.g., Kumar, Ayodeji, & Hassan, 2014) indicates context differences, which implies that the results obtained in one economy or industry might not be generalized across the listed manufacturing companies in Nigeria.

Third, a large body of research assumes short-term studies, which overlooks the long-term implications of the lean accounting practices on corporate value creation. Also, although there is steady improvement in the operational efficiency, the conversion of the gains into value creation especially in terms of EVA and CROA is not well studied. The findings of Obeng (2023), Chukwuma (2022), and Ali and Rahman (2021) show that efficiency gain is not necessarily accompanied by increasing the profitability, cash returns, unless it is accompanied by tangible costs saving or value-creation, which is a conceptual gap in the understanding of the differentiated role of lean accounting practices.Lastly, moderating and contextual variables, including firm size, capital-intensive, use of technology, and macroeconomic variables, are usually omitted in the available studies and this can result in biased estimations of the impacts of lean accounting on corporate value. The identified gap highlights the necessity of a thorough research that will assess the impact of lean accounting practices on the creation of corporate value by means of EVA and CROA with a broader range of listed manufacturing companies in Nigeria and factors in firm-specific and macroeconomic differences.

Theoretical Framework of the Value-Based Management (VBM) Theory

The Value-Based Management (VBM) theory extends the notion that the end objective of any company is to create value to the shareholders, rather than to make profits. The key component of this theory is that it uses performance measures where the cost of capital is used to find out whether a firm is actually creating wealth. Advocates of VBM such as Rappaport (1986) and Stewart (1991) suggested indices such as Economic Value Added(EVA) and Cash Return on Assets(CROA), which go further than accounting figures to evaluate whether companies bring higher returns than are expected by capital providers.

Lean accounting is more in line with the VBM framework since it focuses on the removal of waste, optimization of operations, and harmonization of internal activities with value generation (Iliemena, Goodluck&Amahalu, 2019). Conventional profitability measures such as ROA and EPS are useful but they fail to consider the cost of capital or the ability of the firm to convert the lean gains into economic value. As a value metric, EVA gives a better insight into whether the lean practices (like the decrease in the customer lead time (Onuoha&Igwe, 2025; Musa and Ogunyemi, 2024) or the increase in the direct production cost efficiency (Balogun and Adetunde, 2017; Ibrahim and Eze, 2016) are reflected in the shareholders wealth. Equally, CROA

demonstrates the liquidity efficiency of the firm, which is essential towards sustainability in a manufacturing setting where long-term financing is limited (Ali and Rahman, 2021; Obeng, 2023).

VBM theory is adopted in the present study due to its correspondence to the essence of the lean accounting, which is the creation and maintenance of value. Through the theory, EVA and CROA can be viewed not just as financial performance, but as being strategic measures of shareholder value generation. This paper goes beyond the profit margins in the short-term with VBM by suggesting that lean practices can really be converted into financial rewards that make sense to investors and capital providers to ensure financial performance measurement is not made off short-term earnings but the long-term economic value.

3. Methodology

The research design was *ex-post facto* since it was suitable in analyzing the impact of lean accounting practices on corporate value creation based on past data on published financial statements. The design enables the retrospective study of the cause-effect relationship without manipulating variables so that it is especially important when analyzing panel data to consider firm-level characteristics across time. The population consisted of the 51 companies listed on the Nigerian Exchange Group (NGX) as of 31st December 2024, and operating across five sub-sectors, i.e. Industrial Goods (13 firms), Consumer Goods (20 firms), Healthcare (7 firms), Agriculture (5 firms), and Conglomerates (6 firms). This categorization facilitated the sectoral representation, and there was a reflection of the operational diversity in the industry of Nigerian manufacturing.

The data of these companies formed a complete and representative sample of listed manufacturing companies with publicly available financial reports that serve as the foundation of the analysis of a correlation between lean accounting practices and the indicators of corporate value creation, i.e. Economic Value Added (EVA) and Cash Return on Assets (CROA). The study first applied Taro Yamane's formula for sample size determination with a known population of 51, as determined below:

$$n = \frac{N}{1 + N(e)2}$$

Where:

n = Sample Size
N = Population
e = Margin of Error (5%)

$$n = \frac{51}{1 + 51\ (0.05)^2}$$

$$n = \frac{51}{1 + 51\ (0.0025)}$$

$$= 45.23$$

sample size (n) = 45

The study was conducted on a judgmental and stratified sample of 39 manufacturing companies listed on the Nigerian Exchange Group (NGX). The companies were selected from five

manufacturing sub-sectors and had to be listed no later than 2012 and they had to have sufficiently steady financial statements up to 2024. This gave the sample size of 39 firms that were utilized in the analysis. The audited annual reports of sampled firms and NGX Factbooks were the source of secondary data. These sources gave the data needed to calculate the lean accounting measures, Employee Productivity Ratio, Customer Lead Time, Direct Value Stream Cost and Lean Efficiency Ratio, and the corporate measures of value creation, Economic Value Added (EVA) and Cash Return on Assets (CROA). The companies whose financial information was not complete were not included in the analysis to ascertain reliability and uniformity of the variables to be used. To alleviate any survivorship bias, however, the sampling frame used firms in several manufacturing sub-sectors and years and the analysis used publicly available audited reports to make sure that the dataset in the study is representative of the operational and financial reality of the listed manufacturing firms in the study period.The data were analyzed with the panel least squares regression, in the form of both cross-sectional and time-series variation and firm specific heterogeneity to determine the effect of lean accounting practices on corporate value creation..The model by Iliemena, Goodluck and Amahalu (2019) was adapted for this study by using corporate value creation as the dependent variable, lean practices as independent variable while it retained firm size and leverage as control variables, given their influence on operational capacity, resources, and cost structures.The model is specified as below:

Corporate Value Creation = f(EPR, CLT, DVSC, LER, FSIZE, LEVERAGE)

From the above equation, we have two linear econometric models using the two proxies for corporate value creation(EVA and CROA) as follows:

$$EVA_{it} = \alpha_0 + \alpha_1 EPR_{it} + \alpha_2 CLT_{it} + \alpha_3 DVSC_{it} + \alpha_4 LER_{it} + \alpha_5 FSIZE_{it} + \alpha_6 LEV_{it} + \varepsilon_{it} \quad (1)$$

$$CROA_{it} = \beta_0 + \beta_1 EPR_{it} + \beta_2 CLT_{it} + \beta_3 DVSC_{it} + \beta_4 LER_{it} + \beta_5 FSIZE_{it} + \beta_6 LEV_{it} + v_{it} \quad (2)$$

4.0. Results And Discusiions

Regression Result for test of hypothesis one

The Panel Least Squares regression result of Model 1 with EVA as dependent variable is presented in Table 1 below:

Table 1:
Panel Least Squares Regression Result for Model 1 (EVA)

	Fixed Effect Model	Random Effect Model
C	-19.6536 (-2.7008) {0.0270}	-17.3457 (-3.3686) {0.0032}
EPR	-0.2003 (-0.4510) {0.6639}	0.2818 (1.1795) {0.2527}

CLT	-1.3172 (-0.6993) {0.5042}	-1.4198** (-2.0977) {0.0495}
DVSC	1.5582 (1.1526) {0.2823}	0.7151 (1.2521) {0.2257}
LER	0.6469 (1.3907) {0.2018}	0.5005* (2.7777) {0.0120}
FSIZE	10.3388 (0.9518) {0.3690}	11.5763** (2.6394) {0.0162}
LEV	-1.0351 (-1.3093) {0.2268}	0.1380 (0.3299) {0.7451}
F-statistics/Prob	12.36 {0.0005}	7.42 {0.000}
R- Squared	0.9633	0.70
Hausman Test	4.48{0.0109}	
Observation (N)	506	506

Note: (1) bracket () are t-Statistics, (2) bracket { } are probability-values (3) *, ** , ***, implies statistical significance at %1. 5% and 10% levels respectively.
Source:E-VIEWS 9, 2026.

The table 1 shows the panel least squares output of EVA as proxy of value creation by corporations, utilizing the fixed effects model as well as the random effects model. Since the dataset is cross-sectional and has a short time-series, a single panel design was utilized, and the Hausman test (p = 0.0109) showed that the fixed effects model would be more relevant, since the unobserved firm-specific effects are correlated with explanatory variables. The fixed effects findings derive that the overall model is significant (Prob(F) = 0.000588), with an R2 of 0.9633, which implies that 96.3 percent of the variation in EVA is communally clarified by Employee Productivity Ratio (EPR), Customer Lead Time (CLT), Direct Value Stream Cost (DVSC), Lean Efficiency Ratio (LER), Firm Size, and Leverage. This illustrates that the variables as a whole cause a major impact on corporate value creation even though each coefficient may have a minor value. According to the general model, the hypothesis about the joint effect of the lean accounting practices and the firm characteristics on the EVA is accepted.

This justifies the argument that operational and financial management practices should collaborate to add value, which is consistent with past research that indicates the overall significance of lean practices on the performance of firms (Onuoha and Igwe, 2025; Musa and Ogunyemi, 2024; Balogun and Adetunde, 2017).The fact that the individual coefficients were statistically significant, though, the overall model is significant thus showing that this interaction and cumulative effect of lean accounting measures are key in creating values. It aligns with previous findings of Obeng (2023) and Chukwuma (2022) who concluded that the efficiency increases by human capital and operational practices are not necessarily converted to financial value unless

applied as an integrated practice with complementary practices. Likewise, Usman and Ugwu (2013) also pointed out that lean efficiency ratios enhance the performance of firms when they are considered as part of the overall operation model as opposed to independent measures.The outcome also indicates that firm-specific variables, including size and leverage are not individually significant but increase an explanatory power of the model, which is also supported by Ali and Rahman (2021) that contextual factors may strengthen or weaken the impact of lean practices. Comprehensively, the paper validates the hypothesis that lean accounting practices, when implemented cohesively and consistent with the characteristics of the firms, significantly contribute to the value creation of corporations, which makes the need to adopt holistic and integrated systems instead of single indicators related to operations.

Regression Result for Test of Hypothesis Two under both fixed and random effect using Model 2

The Panel Least Squares result of Model 2 with CROA as dependent variable is presented below as:

Table 2:

Panel Least Squares Regression Result for Model 2 (CROA)

	Fixed Effect Model	**Random Effect model**
C	-1.5992 (-1.1190) {0.2645}	-1.9000 (-1.5394) {0.1251}
EPR	0.0127 (0.1476) {0.8828}	-0.0154 (-0.2238) {0.8231}
CLT	-0.0149 (-0.1248) {0.9008}	0.1322 (1.3160) {0.1895}
DVSC	0.0843 (0.3613) {0.7183}	0.1315 (0.6545) {0.5135}
LER	-0.0066 (-0.0957) {0.9238}	0.1001 (1.7142) {0.0879}
FSIZE	-0.3141 (-0.2318) {0.8169}	-0.7919 (-0.6833) {0.4951}
LEV	0.9379* (6.9922) {0.0000}	0.6324* (5.6709) {0.0000}
F-statistics/Prob	5.07 {0.000}	7.46 {0.000}
R- Squared	0.499	0.17
Hausman Test	15.58{0.0162}	
Observation (N)	506	506

Note: (1) bracket () are t-Statistics, (2) bracket { } are probability-values (3) *, ** , ***, implies statistical significance at %1. 5% and 10% levels respectively.

Source*:* E-VIEWS 9, 2026.

The hypothesis that the lean accounting practices and firm characteristics can have a joint impact on cash-based returns on assets was tested using the fixed effects model of CROA. Hausman test (p = 0.0162) indicated that the fixed effects estimate is correct and the entire model is statistically significant (F = 5.071, p = 0.0000) with R 2 of 0.4995. This implies that the explanatory variables, in combination, explain more or less half of the variation in CROA, which shows that there is a significant joint effect. Even though it is statistically insignificant in most cases, the overall importance of the model portrays the combined effect of lean accounting practices and firm characteristics on corporate value creation. On the basis of this general importance, the hypothesis that the lean accounting practices and the firm characteristics influence CROA in a joint manner is accepted.

The results indicate that lean accounting activities affect returns in cash basis not individually, but as a group. This is in line with the previous research that demonstrates that operational efficiency and human capital gains have a positive joint effect in financial performance (Obeng, 2023; Chukwuma, 2022; Onuoha and Igwe, 2025). In the same way, Musa and Ogunyemi (2024) identified the impact of customer lead time, and process efficiency on profitability as the combination of these lean practices. On the other hand, the insignificance of the variables as EPR, CLT, DVSC, and LER demonstrate is contradictory evidence in the work by Usman and Ugwu (2013) who observe that the lean efficiency ratios do not necessarily directly translate into any tangible financial benefits, especially in the short-term perspective. However, leverage becomes a major factor, and it means that the operational enhancement effect on cash returns may be multiplied by the financial structuring. On the whole, this research confirms that lean accounting practices jointly implemented with the help of firm-level factors are necessary to increase the cash-based corporate value creation, although the single variables may not indicate independent value.

Post Diagnostic Tests results

To check for reliability of the results, the results were subjected to some necessary post diagnostic tests which includes the Variance Inflation factor (VIF) tests for multicolleanearity, White heteroskedasticity, and Normality test.

Multicollinearity Test

The Variance Inflation Factor (VIF) test was conducted to examine the presence of multicollinearity among the explanatory variables (EPR, CLT, DVSC, and LER) used in the regression models. The result of the multicollinearity test is therefore presented in the table below;

Table 3:

Test for Multicollinearity using Variance Inflation Factor (VIF)

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.056893	3.06637	NA
EPR	0.001954	9.497615	1.187542
CLT	0.003792	6.314304	3.427682
DVSC	0.003469	9.089634	3.561884
LER	0.001058	3.230029	1.115196

Source*:* E-VIEWS 9, 2026.

As presented in Table 3, the centered VIF values for Employee Productivity Ratio (EPR), Customer Lead Time (CLT), Direct Value Stream Cost (DVSC), and Lean Efficiency Ratio (LER) were 1.187542, 3.427682, 3.561884, and 1.115196, respectively. These results indicate that all the

explanatory variables recorded VIF values well below the critical threshold of 10. This implies that the variables are not highly correlated with each other and, therefore, multicollinearity does not pose a threat to the robustness of the regression estimates. Furthermore, the uncentered VIF values were generally higher but remain within acceptable limits, reflecting the presence of the intercept term in the model rather than true collinearity problems. The coefficient variance also remains minimal across all variables, further confirming model stability.

In summary, the multicollinearity test confirms that the explanatory variables included in the regression models; EPR, CLT, DVSC, and LER, are sufficiently independent of each other. Hence, the regression coefficients derived from subsequent estimations are reliable and unbiased, supporting the validity of the inferential analysis that follows.

Heteroscedasticity Test

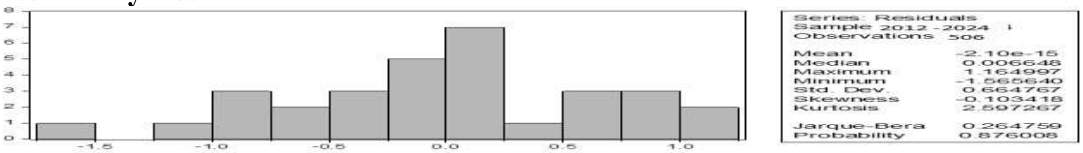
Table 4 :
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	4.531049	Prob. F(3,279)	0.3640
Obs*R-squared	13.14747	Prob. Chi-Square(3)	0.7343
Scaled explained SS	43.60002	Prob. Chi-Square(3)	0.8150

Source*:* E-VIEWS 9, 2026.

The Breusch-Pagan-Godfrey Heteroscedasticity test was used to test for the compliance of the error term to a constant variance. The test for heteroscedasticity states a null hypothesis that there is homoscedasticity. From Table 4, the p-values of the F-statistics and the Obs*R-squared is 0.3640 and 0.7343 which is greater than 0.05(5% critical value) so therefore we accept the null hypothesis of no heteroscedasticity in estimated Models.

Normality Test



Source*:* E-VIEWS 10, 2026.Fig.1: Normality test result.

The figure suggests that the residuals are reasonably close to being normally distributed, which is one of the key assumptions underlying the classical linear regression model. The numerical values further support this observation. The mean of the residuals is effectively zero (-2.10e-15), and the median is also very close to zero (0.0066), indicating that the residuals are centered around the expected value. The standard deviation is 0.6647, which reflects a moderate spread in the residuals. Skewness is -0.1034, indicating a slight negative skewness, meaning the distribution is mildly stretched to the left. However, this value is not large enough to indicate a serious departure from normality. Similarly, the kurtosis is 2.59, which is approximately around the value of 3, which implies the distribution is normally distributed.

To statistically test the normality of the residuals, the Jarque-Bera test was employed. The Jarque-Bera statistic is 0.2647 with a corresponding probability (p-value) of 0.8760. Since this p-value is

greater than the conventional significance level of 0.05, we fail to reject the null hypothesis that the residuals are normally distributed. This result confirms that the residuals do not significantly deviate from normality

5.0.Conclusion and Recommendations

The effect of lean accounting practice on value creation in Nigerian manufacturing companies was studied based on Economic Value Added (EVA) and Cash Return on Assets (CROA) as proxies. The findings indicate that lean accounting activities have an effect on both EVA and CROA implying the need to have integrated operational and financial approaches in the generation of shareholder value. Although the individual variables, like Employee Productivity Ratio, Customer Lead Time, Direct Value Stream Cost, and Lean Efficiency Ratio, were not significant individually, their aggregate effect has a considerable influence on explaining differences in corporate value creation. This highlights the fact that lean practices are best undertaken as a collective and not individually. This report thus concludes that it is important to take up holistic lean accounting strategies to boost efficiency and corporate value creation within the manufacturing sector of Nigerian market.

In the light of the above, the study proposes that manufacturing companies should focus more on the holistic approach to lean accounting as a way of improving corporate value creation. The firms must adopt lean practices as a whole, combining an enhancement of productivity among the employees, and efficiency in the processes, and control of costs to attain the most value. They are also supposed to maximize the application of debt and other financial resources since successful leverage may increase the gains of operational enhancements. Lastly, businesses must be able to constantly track lean accounting indicators and offer continuous training to their employees to make sure that the efficiency improvement can be seen as a concrete improvement in corporate value in the long run.

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