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LEAN ACCOUNTING PRACTICES AND PERFORMANCE OF MANUFACTURING FIRMS IN RIVERS STATE, NIGERIA

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Abstract: This study investigated the effect of lean accounting practices on the performance of manufacturing firms in Rivers State, Nigeria, focusing on two dimensions of lean accounting: Value Stream Costing (VSC) and Kaizen Costing (KC). Firm performance was measured using two financial indicators: profitability and cost efficiency. A descriptive survey research design was adopted, and data were collected from 110 finance and operations managers of selected manufacturing firms using structured questionnaires. Descriptive statistics, multiple regression analysis, and ANOVA were used to analyse the data. The findings revealed that Value Stream Costing significantly improves both profitability ($\beta = 0.42$, $p < 0.001$) and cost efficiency ($\beta = 0.38$, $p = 0.001$), while Kaizen Costing also significantly enhances profitability ($\beta = 0.35$, $p = 0.001$) and cost efficiency ($\beta = 0.41$, $p < 0.001$). The regression models explained 52% of the variance in profitability and 49% of the variance in cost efficiency, and both models were statistically significant ($p < 0.001$). These results indicate that lean accounting practices positively influence the financial and operational performance of manufacturing firms. The study concludes that adoption of lean accounting practices is critical for enhancing profitability and operational efficiency. It recommends that manufacturing firms institutionalize lean accounting, align accounting systems with lean production processes, and cultivate a culture of continuous improvement through Kaizen initiatives.

Keywords: Lean Accounting, Value Stream Costing, Kaizen Costing, Profitability, Cost Efficiency, Manufacturing Firms, Rivers State, Nigeria

Introduction

In an increasingly competitive and cost-sensitive global business environment, manufacturing firms are under growing pressure to improve operational efficiency, reduce waste, and enhance overall financial performance. Traditional accounting systems, which emphasize standard costing, variance analysis, and complex inventory valuations, have been criticized for their inability to support modern lean production systems and strategic decision-making (Maskell & Baggaley, 2006). As a response to these limitations, lean accounting has emerged as an alternative management accounting approach designed to align accounting practices with lean manufacturing principles by focusing on value creation, waste elimination, and continuous improvement.

Lean accounting practices emphasize simplified reporting, value stream costing, and performance measurements that support operational excellence and strategic goals (Maskell et al, 2011). By providing timely, transparent, and decision-relevant information, lean accounting enables managers to better understand cost behaviour, identify non-value-adding activities, and improve profitability. Empirical evidence from developed economies suggests that organizations adopting lean accounting experience improved cost control, enhanced productivity, and better financial performance compared to firms relying solely on traditional accounting systems (Fullerton et al, 2014). In

developing economies such as Nigeria, manufacturing firms face additional challenges including high production costs, infrastructural deficits, fluctuating exchange rates, energy instability, and intense competition from imported goods. These constraints have adversely affected the performance and sustainability of manufacturing firms, particularly in industrial hubs such as Rivers State. Rivers State hosts a significant concentration of manufacturing activities, including food and beverages, chemicals, plastics, building materials, and oil-related manufacturing, making it a critical region for examining efficiency-driven accounting innovations. Despite this, many manufacturing firms in the state continue to rely on conventional accounting systems that inadequately capture process inefficiencies and fail to support lean operational strategies.

The adoption of lean accounting practices offers a viable pathway for manufacturing firms in Rivers State to improve financial performance by aligning accounting information with operational realities. Practices such as value stream costing and Kaizen costing enable firms to track costs across entire production flows, encourage continuous improvement, and support informed managerial decisions. Studies have shown that lean accounting contributes positively to profitability, cost efficiency, and operational performance when effectively implemented within a lean production environment (Adamu & Maccarthy, 2022; Ofoegbu & Efeh,2023; Hung,2025). However, empirical studies on lean accounting practices within the Nigerian manufacturing context remain limited, with existing research focusing largely on lean production, cost management, or traditional management accounting systems.

This study seeks to bridge this gap by empirically examining the relationship between lean accounting practices and the performance of manufacturing firms in Rivers State, Nigeria. By focusing on key dimensions of lean accounting practices and firm performance, the study provides context-specific evidence that contributes to the management accounting literature and offers practical insights for managers, policymakers, and professional accountants seeking to enhance the competitiveness and sustainability of manufacturing firms in the region.

Research Objectives

The main objective of this study is to examine the effect of lean accounting practices on the performance of manufacturing firms in Rivers State, Nigeria. Specifically, the study seeks to:

1. Examine the effect of value stream costing on the profitability of manufacturing firms in Rivers State, Nigeria.
2. Determine the effect of value stream costing on the cost efficiency of manufacturing firms in Rivers State, Nigeria.
3. Assess the effect of Kaizen (continuous improvement) costing on the profitability of manufacturing firms in Rivers State, Nigeria.
4. Evaluate the effect of Kaizen (continuous improvement) costing on the cost efficiency of manufacturing firms in Rivers State, Nigeria.

Research Hypotheses;

1. H_{01}: Value stream costing has no significant effect on the profitability of manufacturing firms in Rivers State, Nigeria.
2. H_{02}: Value stream costing has no significant effect on the cost efficiency of manufacturing firms in Rivers State, Nigeria.
3. H_{03}: Kaizen (continuous improvement) costing has no significant effect on the profitability of manufacturing firms in Rivers State, Nigeria.
4. H_{04}: Kaizen (continuous improvement) costing has no significant effect on the cost efficiency of manufacturing firms in Rivers State, Nigeria.

Conceptual Framework

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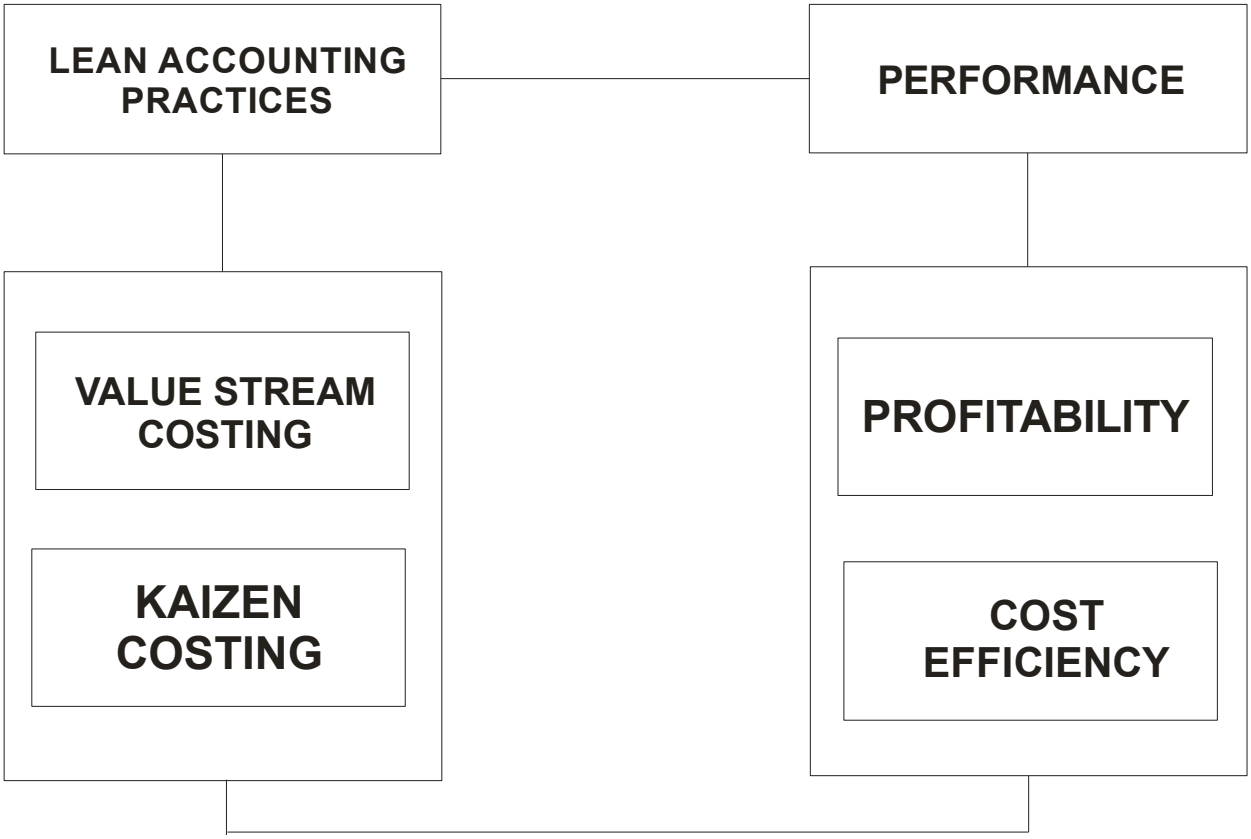

Lean Theory (Toyota Production System Theory)
Lean Theory originates from the Toyota Production System (TPS) and is founded on the principle of maximizing customer value while minimizing waste across organizational processes. The theory emphasizes continuous improvement (Kaizen), respect for people, value stream optimization, and the systematic elimination of non-value-adding activities (Ohno, 1988; Womack & Jones, 2003). Lean Theory asserts that organizations achieve superior performance when all business functions including accounting are aligned with lean operational objectives. Lean Theory provides the theoretical foundation for lean accounting practices such as value stream costing and Kaizen costing. Traditional accounting systems often conflict with lean operations by encouraging large inventories and complex variance analyses, whereas lean accounting supports simplicity, transparency, and real-time performance measurement. By aligning accounting information with lean production flows, firms can enhance cost efficiency, improve profitability, and support better managerial decision-making. Empirical studies indicate that organizations that successfully integrate lean principles into their accounting systems experience improved operational and financial performance (Fullerton et al, 2014

Contingency Theory
Contingency Theory posits that there is no universally optimal management or accounting system applicable to all organizations. Instead, the effectiveness of management practices depends on how well they fit the organization's internal and external environment, including technology, organizational structure, size, strategy, and competitive conditions (Otley, 1980; Donaldson, 2001). According to this theory, accounting systems must be tailored to support an organization's operational strategy and contextual

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realities. Applied to this study, Contingency Theory suggests that lean accounting practices will enhance firm performance only when they are appropriately aligned with the manufacturing firm's production system, organizational culture, and environmental conditions. In Rivers State, manufacturing firms operate in a challenging environment characterized by infrastructural constraints, energy costs, and competitive pressures. Lean accounting practices, when adapted to these contextual factors, can provide relevant cost information, promote efficiency, and improve financial outcomes. Contingency Theory explains why lean accounting practices may produce varying performance outcomes across manufacturing firms in Rivers State depending on organizational and environmental factors.

Concept of Lean Accounting Practices

Lean accounting is a management accounting approach aimed to support lean manufacturing and lean management philosophies by providing relevant, timely, and transparent financial and non-financial information that promotes value creation and waste elimination. Unlike traditional accounting systems that emphasize detailed cost allocations, standard costing, and variance analysis, lean accounting focuses on simplicity, value stream reporting, and continuous improvement to enhance decision-making and organizational performance (Maskell et al, 2011). The primary objective of lean accounting is to connect accounting practices with lean operational processes by eliminating accounting waste, reducing unnecessary complexity, and improving the visibility of financial performance across value streams. Lean accounting emphasizes the measurement of value-adding activities and discourages behaviours such as overproduction and excessive inventory accumulation, which are often incentivized by traditional accounting systems (Maskell & Baggaley, 2006). By integrating accounting information with operational realities, lean accounting supports strategic decision-making, enhances cost control, and improves financial performance. In manufacturing organizations, lean accounting practices provide managers with accurate and actionable information that reflects actual production flows rather than artificial departmental boundaries.

Value Stream Costing

Value stream costing is a core dimension of lean accounting that assigns all direct and indirect costs to a specific value stream rather than to individual products or departments. A value stream represents the complete set of activities required to design, produce, and deliver a product or service to the customer. By aggregating costs at the value stream level, value stream costing provides a clearer picture of profitability and cost behaviour across the entire production process (Maskell et al., 2011). Unlike traditional costing systems that rely on complex overhead allocations, value stream costing simplifies cost measurement by including only relevant and controllable costs within each value stream. This approach enhances cost transparency and enables managers to identify waste, inefficiencies, and non-value-adding activities more effectively. Studies indicate that value stream costing improves managerial decision-making by linking financial performance directly to operational performance, thereby supporting continuous improvement initiatives. In manufacturing firms, value stream costing facilitates better pricing decisions, resource allocation, and performance evaluation. By focusing on end-to-end production flows, firms can reduce production bottlenecks, minimize inventory holding costs, and improve overall profitability.).

Kaizen (Continuous Improvement) Costing

Kaizen costing is another key dimension of lean accounting that emphasizes continuous, incremental cost reduction during the production phase of a product's life cycle. The term Kaizen is derived from Japanese management philosophy and refers to on-going improvement through small, systematic changes involving all employees. Kaizen costing focuses on setting cost reduction targets and encouraging operational improvements that lead to lower production costs without compromising quality (Imai, 1986). Under Kaizen costing, accounting systems support continuous improvement by tracking cost reductions achieved through process

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enhancements, waste elimination, and productivity improvements. Unlike traditional cost control methods that focus on meeting predefined standards, Kaizen costing encourages continuous performance improvement beyond existing benchmarks. This approach fosters a culture of cost consciousness and employee involvement, which is essential for sustaining lean operations (Cooper & Slagmulder, 2004).

Concept of Performance

Organizational performance refers to the extent to which an organization achieves its stated objectives by efficiently and effectively utilizing available resources to generate desired outcomes. In the context of manufacturing firms, performance is commonly assessed using financial and operational indicators that reflect profitability, efficiency, growth, and sustainability. Performance measurement plays a critical role in evaluating managerial effectiveness, guiding strategic decisions, and ensuring long-term organizational success (Edeme et al, 2022). From a management accounting perspective, firm performance emphasizes financial outcomes such as profit generation, cost control, and resource utilization efficiency. These indicators provide quantifiable evidence of a firm's ability to survive and compete in dynamic and challenging business environments. Scholars argue that performance is a multidimensional construct, requiring the use of multiple indicators rather than a single measure to provide a comprehensive evaluation of organizational success (Kaplan & Norton, 1996). In manufacturing firms operating in developing economies like Nigeria, performance assessment is particularly important due to challenges such as high production costs, infrastructural deficits, energy instability, and competitive market pressures. Consequently, measures such as profitability and cost efficiency are widely adopted because they directly reflect the financial health and operational effectiveness of manufacturing firms (Richard et al., 2009). These dimensions are especially relevant when examining the impact of lean accounting practices, which are designed to enhance cost management and value creation.

Profitability

Profitability is a key dimension of firm performance that reflects a firm's ability to generate earnings from its operations after covering all expenses. It measures the effectiveness of management in utilizing organizational resources to produce financial returns for owners and stakeholders. Common indicators of profitability include net profit margin, return on assets (ROA), and return on equity (ROE) (Higgins, 2012). Profitability is influenced by factors such as production efficiency, cost management practices, pricing strategies, and market competitiveness. Effective accounting systems play a crucial role in enhancing profitability by providing accurate cost information and supporting informed managerial decisions. Studies have shown that firms with efficient cost management and performance measurement systems tend to record higher profitability levels (Fullerton et al, 2014). Profitability improves when waste is eliminated, production cycles are shortened, and value-adding activities are maximized. Lean accounting practices support profitability by simplifying cost reporting and highlighting the financial impact of operational improvements, thereby enabling manufacturing firms to sustain competitive advantage and financial growth (Maskell et al., 2011).

Cost Efficiency

Cost efficiency refers to a firm's ability to produce goods or services at the lowest possible cost while maintaining acceptable quality standards. It reflects how well an organization utilizes its resources to minimize waste, control expenses, and optimize production processes. Cost efficiency is a critical performance indicator in manufacturing firms, where production and operational costs significantly affect overall profitability (Drury, 2018). Cost-efficient firms are better positioned to withstand economic shocks, price volatility, and competitive pressures. In manufacturing environments, cost efficiency is achieved through improved process design, waste reduction, optimal resource allocation, and continuous improvement initiatives. Management accounting systems that emphasize cost transparency and process-based measurement have been found to

significantly enhance cost efficiency (Cooper & Slagmulder, 2004). Lean accounting practices reinforce cost efficiency by focusing on value stream costs and continuous cost reduction rather than complex overhead allocations. Empirical evidence suggests that firms adopting lean-oriented cost management practices experience lower production costs, improved operational efficiency, and enhanced financial performance (Pavlatos & Paggios, 2010). For manufacturing firms in Rivers State, cost efficiency is particularly important due to high energy costs and infrastructural challenges, making it a critical determinant of sustainable performance.

Empirical Review

Bagshaw (2018) investigated the relationship between lean manufacturing and efficiency among 53 manufacturing firms registered with the Manufacturers Association of Nigeria in Rivers State. Data were collected through questionnaires and analysed using mean scores, standard deviation, and t-statistics the findings revealed that lean manufacturing has a strong, positive, and statistically significant effect on operational efficiency. The study recommended that manufacturing firms should establish clear lean implementation policies, strengthen staff training and development, and promote professionalism

Edeme et al. (2022) investigated lean management and corporate performance of manufacturing firms in Enugu State using a survey design and structured questionnaires administered to 284 respondents. Regression analysis revealed that value addition, continuous improvement, standardization, and workflow each had a positive and significant effect on corporate performance at the 5% significance level. The study concluded that continuous and comprehensive value-adding activities are essential for achieving sustainable organizational performance.

Ofoegbu and Efeh (2023) examined the relationship between lean production and operational performance of manufacturing firms in Rivers State. Using data from selected manufacturing firms collected through questionnaires and interviews, the study employed Structural Equation Modelling (SEM) and qualitative analysis. The findings revealed a positive and significant relationship between lean production and operational performance. The study concluded that lean production is vital for sustaining business operations and recommended the adoption of clear operational policies and regular equipment monitoring.

Adamu and Maccarthy (2022) examined the relationship between lean accounting practices and financial performance of listed consumer food products manufacturing companies in Nigeria. Using a triangulation and correlational research design, data were collected from 183 respondents drawn from production, marketing, and finance departments of nine listed firms, and analysed using descriptive statistics and multiple regression analysis. The findings revealed that just-in-time costing has a significant positive effect on return on equity, while value stream mapping showed no significant relationship with return on equity. The study also found that firm size significantly moderates the relationship between lean accounting practices and

Fred-Horsfall and Imo (2024) examined the effect of lean manufacturing practices on the financial performance of listed FMCG firms in Nigeria using secondary data and regression analysis. Financial performance was measured by return on assets, with labour productivity as a moderating variable. The findings showed that JIT production and JIT raw material inventory positively affect financial performance, though when labour productivity was controlled, only JIT raw material inventory remained significant. The study concluded that lean practices are suitable for labour-intensive environments like Nigeria and recommended that managers carefully consider the interaction effects of different lean practices when implementing them.

Marjan et al. (2015) examined the role of management accounting systems (MAS) in decision-making within medium-sized and large Slovenian firms during the transition to a market-oriented economy. Using questionnaire data collected across multiple periods (1995–2011), the study analysed changes in MAS reporting frequency, content, and scope. The findings revealed that MAS was less developed during the transition period compared to mature market economies but showed notable improvements in the post-transition and crisis periods. The study concluded that strengthening

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MAS enhances decision-making quality and contributes to organizational effectiveness in transition economies.

Oyewo (2017) examined the predictors of the effectiveness of management accounting functions in Nigerian firms using data from 131 finance officers selected through stratified random sampling. Employing descriptive statistics, factor analysis, Kruskal–Wallis test, and binary logistic regression, the study found that firm size, age, sector, public-quotation status, and the existence of a management accounting department significantly influence management accounting effectiveness, while foreign affiliation does not. The study concluded that having a dedicated management accounting department is the strongest determinant of an effective management accounting function and recommended its establishment in organizations.

Hung (2025) investigated the factors influencing the applicability of lean accounting in Vietnam's pulp and paper manufacturing enterprises, surveying 298 experts from 145 firms. Using PLS-SEM, the study found that employee knowledge and skills, senior management support, and availability of lean accounting software positively affect lean accounting implementation, while current accounting systems and manufacturing complexity have negative effects. Competitive pressure and customer demand were not significant. The study emphasizes the importance of internal organizational factors over external pressures and recommends developing staff capacity, securing management support, and investing in appropriate technology to enhance lean accounting adoption.

Shrikant et al. (2021) conducted a systematic review of studies linking lean manufacturing practices to operational and business performance. The study identified key components of lean manufacturing and highlighted knowledge gaps and management support as the main challenges to effective implementation. A conceptual framework and model were developed to illustrate the relationship between lean practices and performance outcomes. The study provides a comprehensive assessment of the current literature, offering insights for both academics and practitioners to improve operational and business performance through lean initiatives.

Fullerton et al. (2014) examined the relationship between lean manufacturing practices and firm performance using survey data from 244 U.S. manufacturing firms. The study highlighted that lean must be adopted as a holistic business strategy, integrating operations and management accounting practices (MAP) to improve quality, flexibility, and customer responsiveness. Findings revealed that strategically aligned lean MAP, including value stream costing and visual performance measures, positively influence operations performance, both directly and indirectly. The study concluded that collaboration between operations and accounting personnel is essential to maximize the benefits of lean practices.

Research Methodology

This study adopted a descriptive survey research design to examine the relationship between lean accounting practices and the performance of manufacturing firms in Rivers State, Nigeria. The design is appropriate as it enables structured data collection from a large population and allows analysis of patterns, relationships, and trends (Creswell, 2014). The study focused on value stream costing and Kaizen costing as independent variables, with profitability and cost efficiency as measures of financial performance. The population comprised all manufacturing firms registered with the Rivers State Ministry of Commerce and Industry, including sectors such as food and beverages, chemicals, plastics, building materials, and oil-related manufacturing. Medium and large-scale firms were purposively selected for their formal accounting systems. Respondents were drawn from finance and accounting managers, operations managers, and production supervisors due to their direct knowledge of accounting and operational practices. The sample size was determined using Krejcie and Morgan's (1970) formula. Primary data were collected using a structured questionnaire on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The questionnaire was validated by accounting and management experts, and a pilot study with 10% of the sample produced a Cronbach's Alpha ≥ 0.70, confirming reliability (Nunnally, 1978). Data were analysed using descriptive statistics, inferential

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statistics, and multiple regression analysis in SPSS version 26, with hypotheses tested at a 5% significance level.

Model specification

$FP=\beta 0+\beta_1 VSC+\beta_2 KC+\epsilon$

Where:

FP = Financial Performance (Profitability & Cost Efficiency)

VSC = Value Stream Costing

KC = Kaizen Costing

β0= Intercept

β1, β2= Coefficients of the independent variables

ϵ = Error term

Data Presentation, Analysis, and Discussion of Findings

This presents the results of the study on the effect of lean accounting practices on the performance of manufacturing firms in Rivers State, Nigeria. The analysis covers descriptive statistics of the study variables, and inferential analysis to test the research hypotheses. The discussion of findings is linked to prior empirical studies. A total of 120 questionnaires were distributed distributed to finance and operations managers across selected manufacturing firms, distributed out of which 110 were returned and found usable, representing a response rate of 91.7%, which is adequate for analysis (Krejcie & Morgan, 1970).

Descriptive Statistics of Study Variables

Variables	N	Sum	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Value Stream Costing	110	418	2.00	5.00	3.80	0.62	-0.48	0.36
Kaizen Costing	110	426	3.00	5.00	3.87	0.59	-0.41	0.29
Profitability	110	432	2.00	5.00	3.93	0.64	-0.53	0.44
Cost Efficiency	110	425	2.00	5.00	3.86	0.61	-0.46	0.31

Source; SPSS OUTPUT.2025

All variables have mean scores above 3.8, indicating that respondents generally agree that lean accounting practices are adopted and are associated with above-average performance. Standard deviations range from 0.59 to 0.64, showing moderate variability in responses, which suggests consistent perceptions among respondents. Negative skewness for all variables indicates a slight tendency of responses to cluster toward higher agreement levels (Likert scale 4–5).

Regression Summary for profitability

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	Durbin-Watson	F-Statistic	Sig. (p)
1	0.721	0.520	0.510	0.456	1.87	58.62	0.000

Model	Sum of Squares (SS)	df	Mean Square (MS)	F	Sig. (p)
Regression	48.32	2	24.16	58.62	0.000
Residual	44.50	107	0.416		
Total	92.82	109			

Predictor Variable	Beta (β)	Standard Error (SE)	t-value	Sig. (p)

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VSC	0.42	0.097	4.32	0.000
KC	0.35	0.092	3.78	0.001

Source; SPSS OUTPUT, 2025

Regression Summary for Cost Efficiency

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	Durbin-Watson	F-Statistic	Sig. (p)
1	0.700	0.490	0.480	0.462	1.91	52.34	0.000

Model	Sum of Squares (SS)	df	Mean Square (MS)	F	Sig. (p)
Regression	45.21	2	22.61	52.34	0.000
Residual	46.95	107	0.439		
Total	92.16	109			

Predictor Variable	Beta (β)	Standard Error (SE)	t-value	Sig. (p)
VSC	0.38	0.098	3.89	0.001
KC	0.41	0.100	4.11	0.000

Source; SPSS OUTPUT, 2025

Discussion of Findings

This section interprets the results of the study, linking the statistical analysis to the objectives and hypotheses, while contextualizing findings with existing literature and theoretical underpinnings.

Effect of Value Stream Costing on Profitability

The study found that Value Stream Costing (VSC) has a significant positive effect on the profitability of manufacturing firms in Rivers State ($\beta = 0.42$, $t = 4.32$, $p < 0.001$). This implies that firms that adopt value stream costing are able to accurately assign costs across the entire production value stream, providing managers with better visibility of operational expenses and profitability per product line. By focusing on cost reduction at the value stream level rather than individual departments or products, firms can eliminate non-value-adding activities, minimize wastage, and improve net earnings. These findings are consistent with the studies of Fullerton et al, (2014), which showed that lean accounting practices, particularly value stream costing, significantly improve firm profitability by aligning accounting with lean operational principles. The result also aligns with the Resource-Based View (RBV) theory, which posits that firms achieve competitive advantage when internal resources including management accounting systems are used efficiently to generate superior performance (Barney, 1991).

Effect of Kaizen Costing on Profitability

The study further revealed that Kaizen Costing (KC) significantly improves profitability ($\beta = 0.35$, $t = 3.78$, $p = 0.001$). This indicates that continuous improvement initiatives embedded in Kaizen costing practices allow firms to achieve incremental cost reductions over time. By promoting systematic, employee-driven process improvements, firms reduce waste, enhance production efficiency, and improve their bottom line. These results support the findings of Shrikant et al. (2021), who observed that Kaizen-based cost control practices enhance financial performance in manufacturing organizations. The results also align with Imai's (1986) principles of Kaizen, which emphasize small, continuous improvements as a path to sustained financial and operational benefits.

Effect of Value Stream Costing on Cost Efficiency

The regression analysis showed that **VSC** has a significant positive effect on cost efficiency ($\beta = 0.38$, $t = 3.89$, $p = 0.001$). Firms adopting value stream costing were able to optimize resource allocation, reduce production bottlenecks, and minimize unnecessary expenses. By focusing on the full value stream, firms identify cost drivers and areas of inefficiency that would otherwise be obscured in traditional cost accounting systems. This finding aligns with Pavlatos and Paggios (2010), who reported that value stream costing, improves operational performance and cost management, particularly in manufacturing settings. It further supports the Contingency Theory, which suggests that organizational performance is enhanced when management systems are aligned with operational strategies, such as lean production.

Effect of Kaizen Costing on Cost Efficiency

Kaizen Costing (KC) significantly enhances cost efficiency ($\beta = 0.41$, $t = 4.11$, $p < 0.001$). Continuous improvement initiatives under Kaizen costing enable firms to systematically reduce production costs, optimize labour utilization, and improve process flow. This demonstrates that adopting lean-oriented continuous improvement practices leads not only to higher financial returns but also to more efficient operations. The findings are consistent with Olatunji, Ogundipe, and Akinwale (2020), who observed that firms implementing Kaizen costing achieved measurable cost reductions and improved operational efficiency. It also supports the principles of lean accounting, which emphasize the reduction of non-value-adding activities and alignment of accounting measures with operational improvements (Maskell et al., 2011).

Conclusion and Recommendations

This study examined the effect of lean accounting practices on the performance of manufacturing firms in Rivers State, focusing on Value Stream Costing (VSC) and Kaizen Costing (KC), with performance measured by profitability and cost efficiency. Data from 110 finance and operations managers were analysed using descriptive statistics, multiple regression, and ANOVA. The findings showed that VSC and KC significantly enhance profitability and cost efficiency, collectively explaining 52% of profitability variance and 49% of cost efficiency variance. The study concludes that:

1. Lean accounting practices are critical for firm performance, improving managerial decision-making, cost control, and operational efficiency.
2. Firms that integrate VSC and KC with production and accounting systems achieve financial and operational excellence, reducing non-value-adding activities and fostering continuous improvement.
3. Adoption of lean accounting contributes to sustainable competitive advantage, enabling firms to optimize resources and profitability despite operational challenges.

Based on the findings and conclusions, the study recommends the following:

1. Institutionalize Lean Accounting: Fully integrate VSC and KC into accounting systems to enhance cost management and profitability.
2. Management Training: Invest in staff training on lean accounting tools to ensure effective adoption and continuous improvement.
3. Align Accounting with Production: Synchronize accounting systems with lean production processes to improve cost visibility, reduce waste, and support decision-making.
4. Promote Continuous Improvement: Encourage employee participation in Kaizen initiatives to drive incremental productivity gains.
5. Government and Industry Support: Regulatory bodies and industry associations should provide awareness programs, incentives, and guidelines to support lean accounting adoption and strengthen competitiveness.

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QUESTIONNAIRE.

Please tick (✓) the option that best represents your opinion.

Response Scale

5 – Strongly Agree (SA)4 – Agree (A)3 – Neutral (N)2 – Disagree (D)1 – Strongly Disagree (SD)

Section A: Demographic Information

1. Gender:☐ Male ☐ Female
2. Age:☐ Below 30 ☐ 31–40 ☐ 41–50 ☐ Above 50
3. Educational Qualification:☐ OND/NCE ☐ HND/B.Sc ☐ M.Sc ☐ PhD
4. Position in the Organization:☐ Accountant ☐ Finance Manager ☐ Operations Manager ☐ Production Supervisor
5. Years of Experience:☐ Below 5 years ☐ 5–10 years ☐ 11–15 years ☐ Above 15 years

S/N	Statement	SA	A	N	D	SD
1	Our firm tracks costs across the entire production value stream rather than individual departments.					
2	Value stream costing helps management identify non-value-adding activities.					
3	The use of value stream costing improves cost transparency in our organization.					
4	Decisions on pricing and production are improved through value stream costing information.					
5	Value stream costing supports effective cost reduction initiatives in our firm.					

S/N	Statement	SA	A	N	D	SD
6	Our organization encourages continuous improvement in production processes.					
7	Employees are actively involved in identifying ways to reduce costs.					

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8	Kaizen costing helps in achieving gradual and sustainable cost reduction.					
9	Management supports continuous cost improvement initiatives.					
10	Kaizen costing practices improve operational efficiency in our firm.					

S/N	Statement	SA	A	N	D	SD
11	Our firm's profit margin has improved over the past few years.					
12	Cost control practices have positively influenced our profitability.					
13	Lean accounting practices have contributed to increased revenue.					
14	Our organization consistently meets its profit targets.					
15	Overall financial performance of the firm is satisfactory.					

S/N	Statement	SA	A	N	D	SD
16	Our firm minimizes waste in production processes.					
17	Resources are efficiently utilized in our organization.					
18	Production costs are well controlled in our firm.					
19	Lean accounting practices have helped reduce operational costs.					
20	Our firm operates at an optimal cost level compared to competitors.					