EFFECT OF COST MANAGEMENT MECHANISMS ON THE FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA.

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ABSTRACT

In the pursuit of organizational objectives both financial and non-financial objectives, the goal of profit maximization and cost minimization cannot be overemphasized in the center of organizational operation. In view of this, this study examines the effect of cost management mechanism on financial performance of listed consumer goods companies in Nigeria. To achieve these objectives, an ex-post facto research design was employed with a population of 22 listed consumer goods companies out of which 15 companies were sampled using a purposeful sampling technique from 2013 to 2022, and the data was analyzed using panel multiple regression technique with the help of E-view 10 statistical tools. The result of the study revealed that Prime cost has Positive but insignificant effect on financial performance of listed consumer goods companies in Nigeria, while fixed overhead has a negative but significant effect on financial performance of listed consumer goods companies in Nigeria. The study therefore, conclude that when taking collectively return on capital employed against the regressor, cost management mechanisms have a positive and significant effect on return on capital employed of listed consumer goods companies in Nigeria. Based on this finding, it is recommended that the management of consumer goods companies in Nigeria should manage their cost system effectively since it has a positive effect on financial performance.

Keywords: Cost management mechanism, Prime cost, Fixed overhead, financial performance, return on capital employed.

INTRODUCTION

Financial performance is an image of the firm's financial soundness that is analyzed through a sequence of financial analysis tools, so it can know the position and level of the soundness of the company's financial condition that can also reflect work performance in a certain period. The concept of financial performance according to Shahnia and Endri (2020) is a set of financial events of a firm over a certain period reported in the statements of financial position, income statement, and cash flow statement. Meanwhile, according to Doorasamy (2016), financial performance as an analysis is shown to determine the extent to which a company has carried out financial activities for a given period. Prabowo and Korsakul (2019) stated that the true parameters of financial performance are the income statement, and net income and expenses. The benefits of this performance appraisal

include; measuring the achievements of the company in a certain period, seeing the company's overall performance, as a basis for determining future corporate strategy, providing direction in decision-making, as well as the basis for determining investment policies for investors.

Olowookere *et al.* (2021) stated that in the pursuit of organizational objectives both financial and non-financial objectives, the goal of profit maximization and cost minimization cannot be overemphasized in the center of organizational operation. This implies the essential cost management mechanism in an organization. Due to the recent growth in the global financial system, which has made the operation and performance of most companies in the world highly competitive, the Cost management mechanism has remained the most effective tool used to achieve profitability and remain viable in the face of global competition.

Globally, the cost management mechanism is one of the core functional areas of every finance manager of an organization, and it is said to be the nerve center of any business as it determines the success or failure of a business organization. It plays a key role in increasing profit maximization as well as cost minimization to enhance the financial performance of a company in particular and the economy of a country at large (James & Luke,2014). Cost management generally refers to cost-cutting and its common approach that company managers use to respond to decreasing sustainable profitability (Anderson,2007). The most important managerial mechanism is cost management strategies (Zengain& Ada,2010), and cost management mechanisms are considered critical factors to increase revenue for any company to remain viable in the face of global competition.(Kumar & Shafabi,2011). The cost management mechanism supports decision-making and improves competitive advantage which results in better resource allocation (Ellram & Stanley,2008).

In Nigeria, the relationship between cost management mechanisms and the financial performance of consumer goods companies has continued to generate huge debate among academic scholars. Effective strategic cost management mechanism depends on the attitudes, beliefs, management values, education, and work experience of the management team or the finance manager, which helped to improve the financial performance of consumer goods companies in Nigeria (Sunday & Solomon, 2012). Also, their impact and influence have shown the advancement of rapidly growing companies along the globalization process. The more efficient the strategic cost management mechanism, the higher the financial performance of such a company (Chandra, 2012). In addition, the governments of Nigeria are increasingly promoting and supporting the growth and development of consumer goods companies as part of their overall development strategy, as it has been regarded as one of the bedrocks of economic growth in Nigeria. The sector plays an important role in economic development and acts as a vehicle for the growth of the economy, as well as a source of employment for some people to escape poverty through job-driven activities, and productive activities for the growth of the economy as a whole. For the cost management mechanism to enhance the financial performance of any organization, Cost management, therefore, needs to be measured reliably, using the prime cost, fixed overhead cost, and return on capital employed.

Return on Capital Employed

Return on Capital Employed: This is an accounting ratio used in finance, valuation, and accounting. It is a useful measure for comparing the relative profitability of companies after taking into account the amount of capital used. Return on Capital Employed (ROCE) is a measuring tool that measures the efficiency and profitability of capital investments undertaken by a corporation. The return on Capital Employed ratio also indicates whether the company is earning sufficient revenues and profits to make the best use of its capital assets. (Singh & Yadav, 2013). Return on Capital Employed is generally calculated based on two major calculations/ components which are operating profit and capital employed. Operating Profit is the profit that a company earns from its business operations before the deduction of taxes and interests and it is also known as earnings before interest and taxes (EBIT). It is calculated by deducting operating expenses and cost of goods sold from revenues while capital employed is the total amount of capital invested in the business operations by the shareholders and other sources to earn a profit. It is also known as fund employed. (Calculated as the total assets less current liabilities) (EduPristine,2018).

High ROCE is a validation of a company's competitive advantage. It indicates that the company has something special to offer - products or services that command a high return. It usually follows that margins are above average. The trend of both capital employed and margins is, therefore, of considerable importance. Comparison of the ROCE of a company with others in its sector is a far more pertinent measure than a comparison with the market as a whole. Companies with low returns are always suspecting because they are in danger of becoming loss-making if trading conditions deteriorate. Companies with exceptionally high returns may invite competition for their products or services unless they are fully protected by patents or in some other way. (Singh & Yadav, 2013).

Firm size

A firm is a for-profit business organization such as a corporation, limited liability company (LLC), or partnership that provides professional services. The size of a business unit means the size of a business firm. It means the scale or volume of operation turned out by a single firm. The term' size of business' refers to the scale of the organization and operations of a business enterprise (Okudo & Ndubuisi, 2021). One of the most important entrepreneurial decisions in organizing a business is realizing its 'size' as it affects in company and profitability of business enterprises (Amahalu, Nweze & Obi, 2017). In an industry, there are firms of varying sizes. The costs of production in these firms of different sizes vary. Economists are concerned with the best size of a business unit, that is a firm in which the average cost of production per unit is the lowest (Sindhuja, 2021). The theory of the firm asserts that firms exist to maximize profits.

Empirical review

Ali-momoh *et al.* (2022) examined the link between cost control and the financial performance of selected Nigerian manufacturing firms. Specifically, the study examined the effect of administrative cost, selling, and distribution cost on the profit after tax of manufacturing firms in Nigeria. The study employed secondary sources of data that were collated through annual financial reports of ten (10) sampled firms from 2011 to 2020. Data were analyzed using descriptive statistics, correlation analysis, and panel regression which involve, pooled OLS, random effect estimation, and fixed effect estimation including the Hausman test as well as the post-estimation test for the models considered in the study. The findings of the study reported that administrative costs exert an insignificant negative

effect on profit after tax of the sampled firms while selling and distribution cost exert an insignificant positive effect on profit after tax. Therefore, this study concluded that cost control has both positive and negative effects on the financial performance of manufacturing firms in Nigeria, especially when measured in terms of profit after tax. The study recommended that manufacturing firms need to ensure optimal control of administrative costs as any attempt to employ a positive change agent for a specific financial performance measure can lead to unfavorable effects in another measure. As such control of administrative costs by manufacturing firms should be carried out by taking into consideration the overall performance objective of the firms per time, so that provision can be made available for possible triggers of one measure of financial performance at the expense of the other.

Niyi, *et al.* (2022) assessed Cost structure and financial performance as a topical issue in the Manufacturing sector as it affects the financial performance of the manufacturing companies .an ex-post factor research design was employed with a population of all listed manufacturing companies out of which 7 companies were sampled. The various components of cost structure were carefully assessed as independent variables and how they affected the financial performance of the selected manufacturing companies. Return on Assets (ROA) was used to proxy the financial performance of the companies. The study selects 7 industrial goods manufacturing companies listed by the Nigerian Exchange Group and the analysis was done using the financial statements for the period of 2011-2020. Ex-post facto research design and descriptive analysis through the use of regression and correlation analysis were used. The findings of the study confirm that there is a significant effect of cost structure on the financial performance of selected manufacturing companies quoted by the Nigerian Exchange Group. The study recommended that cost structure should be well analyzed into those components and the cost of each of the components should be investigated to manage and control the impact on the profitability of manufacturing companies.

Gitau (2021) investigates the Effect of Cost Management on the Financial Performance of Agribusiness Enterprises in. The study design is a descriptive panel research design. Secondary data was used for analysis. The target population was four Agribusiness enterprises with a total population of thousand two hundred and forty five (1,245) farmers registered as of December 2018 by the Commissioner of Cooperatives in Kenya comprising Homabay, Bungoma, Busia, and Siaya counties which also formed the study target units. Census sampling was used to select a sample of the population. Secondary data over the ten year-period covering 2009-2018 was obtained. Data was collected using a secondary data collection sheet and analyzed using multiple panel regression models. The study findings showed that cost management had a significant influence on return on investment, a measure of the financial performance of Agribusiness enterprises in Kenya and significance tests also showed that the influence was statistically significant. The study, therefore, recommends that all Agribusiness enterprise farmers be trained on cost management aspects.

Sholika, (2021) assessed the effect of financial innovation, financial ratios, cost efficiency, and good corporate governance on the financial performance of banks in Indonesia. The data in this study are in the form of annual financial statements of conventional banks in Indonesia. The effect of cost efficiency, innovation, and financial performance of banks in

Indonesia is expected to be evident in 2009–2018. The research method used is the panel regression method.

The results show that financial innovation affects the financial performance of banks. Cost efficiency hurts the financial performance of banks. The financial ratio, which is proxied by the capital adequacy ratio (CAR) and loan-to-deposit ratio, has a positive effect on return on asset and net interest margin. Financial ratio, which is proxies by nonperforming loans and equity to total assets, hurts return on asset and return on equity. Good corporate governance (GCG), which is proxies by the proportion of managerial ownership (PMO), does not affect the financial performance of banks, whereas GCG, which is proxies by the proportion of independent board of directors, has a negative and significant effect on the financial performance of banks in Indonesia. The study, therefore, recommends effective cost control for the banking sector in Indonesia.

Douglac and Marinus .(2021) investigate the improvement in financial performance that is associated with the use of activity-based costing (ABC), and the conditions under which such improvement is achieved. Internal auditors furnish information regarding company financial performance, the extent of ABC usage, and enabling conditions that have been identified in the literature as affecting ABC efficacy. Confirmatory factor analysis and structural equation modeling are used to investigate the relationship between ABC and financial performance. Results show that there indeed is a positive association between ABC and improvement in ROI when ABC is used concurrently with other strategic initiatives when implemented in complex and diverse firms, when used in environments where costs are relatively important, and when there are limited numbers of intra-company transactions. In addition, measures of the success of ABC used in prior research appear to be predictors of improvement in financial performance. The study recommends that activity-based costing methods should be employed.

Kong Yushang *et.al.* (2020) investigate the Impact of Cost Control Strategies on Companies' Performance and Growth: Evidence from Some Selected Companies in Zimbabwe. The study investigated the effect of cost management on the financial performance of manufacturing firms in Zimbabwe. The specific objectives include examining the cost of inventories, the cost of labour, and the cost of sales on performance. The study employed a descriptive research design. The study employed panel data covering four (4) years 2014-2018 which was gathered from the financial statement of a selected manufacturing firm. The study employed the pooled regression analysis for its data analysis. The study revealed that the cost of inventories has an insignificant positive effect on return on equity, which depicts that the cost of inventories has a positive influence on the going concern of the organization in terms of profit, but it should not be given the utmost importance has the only cost relevant components in the organization that can enhance performance. The cost of labour will increase performance but could be detrimental if the money spent on labour is taking a larger percentage of the overall profit component of the organization. The study recommends that companies in Zimbabwe should embark on cost control activities to enhance financial performance.

Eneisik (2019) investigated Cost Management Practices and Financial Performance of Listed Deposit Money Banks in Nigeria. The study adopts a survey research design the population of the study consists of 15 listed deposit money banks in Nigeria. The study adopts judgmental sampling techniques to select 10 banks as the sample size for the study.

The study adopts methodological triangulation research methodology. Primary data was obtained through a five-point Likert scale structured designed questionnaire to elicit responses from the respondent. Secondary data was obtained from the annual financial report of listed Deposit Money Banks in Nigeria from 2010 – 2018. Hypotheses were tested using Ordinary Least Square Regression statistical tool with the aid of E-view 10 econometric statistical software. The finding shows that activity-based costing had a significant impact on profit before tax. Evidence shows that target costing had a negative impact on profit before tax. Empirical evidence revealed that standard costing had a positive significant impact on profit before tax. Evidence shows that cost management practices influence financial performance. The study concludes that cost management practice improved the financial performance of listed Deposit Money Banks in Nigeria. Thus the researcher recommends amongst others that; banks should ensure routine training and seminars for their staff on new and modern cost management practices to enhance effective cost control and cost reduction leading to financial performance. Management should adopt cost management practices that focus on cost control and cost reduction. Banks' policy on cost management practice should be formulated with an emphasis on cost control and cost reduction.

Godwin *et al.*(2019) Examined the effect of cost control on the profitability of manufacturing companies in Nigeria. ex-post facto research design was used with a population of 78 manufacturing companies out of which 23 companies were sampled for a period of 10 years (2005-2017). The study adopt a judgmental sampling technique and data was obtained from audited financial statements. The study used descriptive and inferential (regression) statistics. The study found that there is a significant negative relationship between the cost of raw materials and profit before tax of manufacturing companies in Nigeria. The study recommends adequate management and alternative sourcing of raw materials.

Theoretical Framework

Transaction cost theory

Transaction Cost Economics (TCE) theory was proposed by Williamson's (1981) When picking between internal production and external purchase, enterprises should take transaction costs into account, according to Williamson's (1981) Transaction Cost Economics (TCE) theory. This theory highlights the significance of minimizing costs associated with dealings with suppliers and stakeholders in the context of cost management. According to the transaction cost theory, any business should aim to reduce transactional costs. Therefore, depending on transaction costs, the firm will decide whether to administer these resources internally or externally. For instance, the theory predicts that when these costs are substantial, organizations will internalize the majority of transactional activity within hierarchies. On the other hand, if the expenses are minimal, businesses would prefer to outsource the task. Due to the fact that you paid an outside party to conduct. It is because paying an external source to perform the activity would be cheaper. According to this theory, all organizations encounter expenses with market transactions. Depending on whether these costs are high or low, organizations sometimes favor internal (or in-house) hierarchies or favor external markets as a structure for their economic governance. A third governance structure, known as relational or hybrid, is an intermediate mechanism combining the other two.

The theory of constraints

Theory of Constraints (TOC), proposed by Goldratt's (1984) focus on the identification and control of bottlenecks in a company's processes are key components of Goldratt's (1984) Theory of Constraints (TOC), which aims to improve overall performance. This theory contends that better financial performance might result from recognizing and overcoming cost-related restrictions in the context of cost management. The Theory of Constraints is an organizational change method that is focused on profit improvement. The essential concept of TOC is that every organization must have at least one constraint. A constraint is any factor that limits the organization from getting more of whatever it strives for, which is usually profit. *The Goal* focuses on constraints as bottleneck processes in a job-shop manufacturing organization.

The Theory of Constraints defines a set of tools that change agents can use to manage constraints, thereby increasing profits. Most businesses can be viewed as a linked set of processes that transform inputs into saleable outputs. TOC conceptually models this system as a chain, and advocates the familiar adage that a "chain is only as strong as its weakest link." Goldratt defines a five-step process that a change agent can use to strengthen the weakest link, or links. In *The Goal,* Goldratt proves that most organizations have very few true constraints. Since the focus only needs to be on the constraints, implementing TOC can result in substantial improvement without tying up a great deal of resources, with results after three months of effort.

Resource-based Theory

The resource-based theory was propounded by Wernerfelt in the year 1984. The approach emphasizes the strategic value of a company's distinctive assets and capacities in forging a competitive edge. This idea emphasizes how a company's capacity for effective cost management can develop into a source of long-term competitive advantage in the context of cost management. The resource-based theory (RBT), according to Pearce and Robinson (2011), is a technique for studying and determining a firm's competitive advantages based on an analysis of the unique combination of assets, skills, capabilities, and intangibles that makes up the organization as a whole. This theory is concerned with internal firm characteristics and their effect on firm performance. It views the firm as a bundle of resources that are combined to create organizational capabilities which it can use to earn above-average profitability (Grant, 1991). Each firm develops competencies from these resources, and when they are well developed, these become the source of the firm's competitive advantages. This theory will aid in explaining the profitability variation of intra-industry firms as it specifically addresses firm characteristics rather than industry factors. The financial resources are normally measured by leverage ratios which enable the firm to increase its project financing by borrowing from debt providers. Liquidity measures also the spontaneous financial resources available to conduct normal business operations. The physical resources as measured by the size of the asset is one the tangible resources the firm can use to gain a competitive advantage, whereas the business experience of the firm gives the firm organizational capabilities that it can use to gain a competitive advantage over its competitors thus being able to earn an above average financial performance.

The desire to understand the effect of cost management on financial performance has been so controversial in the research field. One side argues that the firm financial performance is influenced by the structural characteristics of the industry (Bain, 1954-1959), and on the

other hand, others argue that it is influenced by firm-specific resources focus has been given to the firm's level characteristics as opposed to th characteristics since it forms the basis upon which the firms compete. Fo management will be the main focus since it is a part of firms' strategie coordinating, and controlling financial performance. The theory which ex of a firm's characteristics which are internal factors to the organiza financial performance is the resource-based view (RBV). In this study, we management and its impact on the financial performances of consumer g quoted in Nigeria. However, the criticism put across on the use of RVB is only concentrate on one resource type: that is, intangible assets within a and examines its effect on a firm's performance (Kapelko, 2006).

For this study, the resource-based view theory will be adopted as the und simply because the theory is concerned with the use of internal firm stra competitive advantage. Firm performance has been central in strategy rese and encompasses most other questions that have been raised in the field, firms differ in performance or profitability, how they behave in terms of r choose strategies, and how they are managed (Porter, 1991). In the 1990s the resource-based approach, strategy researchers' focus regarding sustainable competitive advantage shifted from industry to firm-spe choice of this theory is because it portrays more on input performanc influence of resources, and competitive Environment, Strategy, compe and their performances in an organization is as a result of effective c mechanism.

METHODOLOGY

This study adopts an ex-post facto research design. It is an experimen examines the effect of cost management mechanism on financial perfo consumer goods companies in Nigeria. It shows an empirical analysis of statements and accounts of all the fifteen (15) listed consumer goods c Nigerian Exchange Group. This study also requires the use of inferential analysis as a result of the need to test hypothesis. The population of the the twenty two (22) listed consumer goods companies on the Nigerian Ten years covering the period 2013 to 2022 were selected for the study in a clear picture of the problem in a determinable period of time. Fifteen (15 goods companies were sampled. The study adapts the approach of Fad (2020) with little modifications on variables by including a different con model is stated below:

$$ROCE_{it} = \beta_0 + \beta_1 PC + \beta_2 FOH + \beta_4 FS\ \epsilon_{it}$$ ----------

Where:

$ROCE_{it}$ = Return on capital employed

PC = Prime Cost

FOH= Fixed overhead.

FS= Firm Size

ϵ_{it} = Stochastic Error term

The A priori expectation is that cost management mechanism has a po effect on financial performance of listed consumer goods companies in N

RESULT AND DISCUSSION

Descriptive Statistics

In order to have glimpse of the data used in the study, a first pass at the data in form of descriptive statistics was carried out. This gives us a good idea of the patterns in the data used for the analysis. The summary statistics is presented in Table 1

Table 4.1: Descriptive Analysis Result

	ROCE	PC	FOH	FS
Mean	3.250640	5.943692	11.98947	2.877595
Median	5.148000	7.907668	14.55000	4.000000
Maximum	7.382000	12.14532	26.54000	5.000000
Minimum	0.011762	1.041393	1.010000	0.477121
Std. Dev.	2.950812	3.519581	6.852411	1.548230
Skewness	-0.076878	-0.523523	-0.348560	-0.613611
Kurtosis	1.089919	1.596251	1.767139	1.792699
Jarque-Bera	22.95032	19.16760	12.53702	18.52282
Probability	0.000010	0.000069	0.001895	0.000095
Sum	487.5960	891.5538	1798.420	431.6392
Sum Sq. Dev.	1297.387	1845.730	6996.375	357.1555
Observations	150	150	150	150

Source: E-View 10 Output (2023)

Table 4.1 revealed the summary of descriptive statistics of the variables included in the model. It shows the mean values of 3.250640, 5.943692, 11.98947 and 2.877595 for ROCE, PC, FOH, and FS respectively. The standard deviation from the mean is 2.950812, 3.519581, 6.852411 and 1.548230 for ROCE, PC, FOH and FS respectively during the 2013 to 2022 study period. The analysis was also fortified by the value of the skewness and kurtosis of all the variables involved in the model. All the distributions are positively skewed . Variables with value of kurtosis less than three are called platykurtic (fat or short-tailed) and none of the variables qualified for this during the study period. On the other hand, variables whose kurtosis value is greater than three are called leptokurtic (slim or long tailed) and all the variables qualified for this during the study period. Jarque-Bera test shows that the residuals are not normally distributed as none of the values is close to zero.

Correlation Analysis

Table 4.2 presents correlation values between dependent and independent variables and the correlation among the independent variables themselves. These values are generated from Pearson Correlation output. The Table contains correlation matrix showing the Pearson correlation coefficients between the dependent and independent variables and among the independent variables of the study. Generally, a high correlation is expected between dependent and independent variables, while a low correlation is expected among independent variables.

Decision Rule: The correlation between two variables must be between -1 and 1.

Table 4.2: Correlation Analysis Result

Covariance Analysis: Ordinary
Date: 10/04/23 Time: 14:32
Sample: 2013 2022
Included observations: 150

Correlation Probability	ROCE	PC	FOH	FS
ROCE	1.000000			

PC	0.701301	1.000000		
	0.0000	-----		
FOH	0.752364	0.909147	1.000000	
	0.0000	0.0000	-----	
FS	-0.544196	-0.408368	-0.395511	1.000000
	0.0000	0.0000	0.0000	-----

Source: E-View 10 Output (2023)

Table 2 shows the correlation between the dependent variable, ROCE and the independent variables of PC and FOH and also among the independent variables themselves on the other hand. According to Gujarati (2004), a correlation coefficient between two independent variables of 0.80 is considered excessive, and thus certain measures are required to correct that anomaly in the data. From the table, it can be seen that all the correlation coefficients among the independent variables are below 0.80. This point to the absence of possible multicollinearity among the independent variables and the correlation between the variables shows that there is a mix of both positive and negative correlation among the dependent and independent variables. There exist positive significant and 70.1% correlation between ROCE and PC respectively indicating that the higher the ROCE the higher the PC. Furthermore, it is notable from the analysis that all the association between and within the variables of studies are week, thus, signifies absence of possible multicollinearity.

Multicollinearity Test (VIF)

To ensure the rigidity of the measurements, multicollinearity tests were performed, using the Variance Inflation Factor (VIF) as the rigidity test. Multicollinearity occurs when one or more independent variants have a stronger influence on others and this condition is a violation of the linear regression model, that so it may affect the validity of the outcome in any analysis.

Multicollinearity tests are performed to test whether there is a strong correlation between independent variables that may result in misleading results. However, collinearity diagnostics tests were performed using the variance inflation factor (VIF) to further confirm the absence of multicollinearity problem between independent mutations. The results of the collinearity diagnostic test are presented in Table 4.3 below:
***Decision rule**: Medium VIF less than 10 indicates the absence of multi-collinearity, while VIF intermediate over 10 is a sign of multi-collinearity.

Table 4.3: Multicollinearity Test (VIF) Table

Variance Inflation Factors
Date: 10/04/23 Time: 14:36
Sample: 2013 2022
Included observations: 150

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.216589	12.20166	NA
PC	0.008454	22.68660	5.860631
FOH	0.002203	23.62938	5.788825
FS	0.008984	5.395824	1.205041

Source: E-View 10 Output (2023)

As noted above, the law of multicollinearity test rule uses a variance inflation factor that VIF Medium below indicates a lack of multi-collinearity, while VIF intermediate over 10 indicates the presence of multi-collinearity. Table 4.3 above shows the absence of multicollinearity between independent variables, as all independent variables (PC and FOH) have less than 10 VIF centres

Heteroskedasticity Test

A heteroskedasticity test was performed as a diagnostic check to verify the robustness of the estimates. Heterogeneous variance occurs when the standard error of the variable being monitored is not constant over time. Heteroscedasticity violates linear regression modelling assumptions and can affect the validity of analytical results. On the other hand, heteroscedasticity does not cause any bias in the coefficient estimates, but it reduces the precision, and less precise coefficients are more likely to be estimated. The estimates are far from the correct population values that have been removed.

Table 4.4 Heteroskedasticity Test

Panel Cross-section Heteroskedasticity LR Test
Null hypothesis: Residuals are homoskedastic
Equation: EQ01
Specification: ROCE C PC FOH FS

	Value	df	Probability
Likelihood ratio	441.9361	15	0.0000

Source: E-View 10 Output (2023)

Table 4.4 shows the results of the panel cross-section Heteroskedasticity regression test. The decision rule for the panel cross-section Heteroskedasticity test is stated thus: The null hypothesis of the test states that there is no Heteroskedasticity, while the alternate hypothesis states that there is Heteroskedasticity.. From the result in table 4 above with a ratio value of 322.7858 and a corresponding probability value of 0.0000

which is less than 5%, the study therefore posits that, there is every reason to reject the null hypothesis, while the alternative hypothesis that states there is conditional Heteroskedasticity problem is accepted. Consequently, based on the diagnostic probability 0.0000 the null hypothesis is rejected, thus there is conditional heteroskedasticity, indicating that residuals are heteroskedastic and as such the samples did not give a true reflection of the population. This is corrected by logging dependent variable as independent variable to correct the present of heteroscedasticity.

Hausman Test

The Hausmann specification test is a model specification test used in panel data analysis to select between fixed and random effects models. Because the datasets utilised in this investigation were panel, both fixed and random effects regressions were performed. A Hausmann specification test was then used to choose between the fixed-effects and random-effects regression models. This test determined if the error term was connected to the regressor. As a result, the decision rule for the Hausmann specification test is presented at a 5% level of significance:

H_0: Random effect is more appropriate for the Panel Regression analysis

H_1: Fixed effect is more appropriate for the Panel Regression analysis

Table 4.5: Hausman Specification Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	27.505851	3	0.0000

Source: E-View 10 Output (2023)

The result of the Hausman test appended in the table above provide sufficient evidence to reject this null hypothesis at 5% level of significance as can be seen that the probability value (0.0000) of the test is less than the critical value of 0.05. Therefore, the study upholds that fixed effect is more appropriate for the panel regression analysis.

Fixed Effect Likelihood Ratio Test

The Fixed Effect Likelihood Ratio test is a test for model specification in panel data analysis and this test is employed to choose between pooled effect model and the fixed effects model. Due to the panel nature of the data set, both pooled effect and fixed effect regressions were run (as shown in appendix 4 and 5 as attached). Fixed effect likelihood ratio specification test was then conducted to choose the preferred model between the pooled effect and the fixed effect regression models. The test basically checked if the error terms were correlated with the regressors. Thus, the decision rule for the fixed effect likelihood ratio specification is stated thus; at 5% Level of significance:

H_0: Pooled effect is most appropriate for the Panel Regression analysis

H_1: Fixed effect is not appropriate for the Panel Regression analysis

Table 4.3: Fixed Effect Likelihood Ratio Table

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1398.351611	(14,132)	0.0000
Cross-section Chi-square	750.903722	14	0.0000

Source: E-View 10 Output (2023)

The Result of fixed effect likelihood ratio test shows that chi-square statistics value is 750.903722 while the probability values of is 0.0000. This implies that there is enough evidence to reject the null hypothesis which states that pooled effect is most appropriate for the Panel Regression analysis. It thus stands that error component model (pooled effect) estimator is not appropriate because the pooled effects are probably correlated with one or more regressors. Thus, the most consistent and efficient estimation for the study, given the options of a pooled effect analysis and a fixed effect analysis, is the fixed effect model of regression analysis. Consequently, the result suggests that the fixed effect regression model is most appropriate for the sampled data (given the two options as encapsulated above), because the likelihood ratio test statistics as represented by corresponding probability value is greater than 5%.

Test of Research Hypotheses

H_{01}: Prime cost has no significant effect on Return on capital employed of listed consumer goods companies in Nigeria.

H_{02}: Fixed overhead cost has no significant effect on Return on capital employed of listed consumer goods companies in Nigeria.

Dependent Variable: ROCE
Method: Panel Least Squares
Date: 10/22/23 Time: 09:26
Sample: 2013 2022
Periods included: 10
Cross-sections included: 15
Total panel (balanced) observations: 150

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.142688	0.129577	24.25342	0.0000
LOGPC	0.023210	0.020189	1.149679	0.2524
LOGFOH	-0.012294	0.005158	-2.383766	0.0186
LOGFS	0.044138	0.029350	1.503875	0.1350
LOGROCE	0.093728	0.033663	2.784292	0.0062

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.998105	Mean dependent var	3.250640

Adjusted R-squared	0.997845	S.D. dependent var	2.950812
S.E. of regression	0.136983	Akaike info criterion	-1.020024
Sum squared resid	2.458129	Schwarz criterion	-0.638677
Log likelihood	95.50182	Hannan-Quinn criter.	-0.865095
F-statistic	3833.892	Durbin-Watson stat	1.575155
Prob(F-statistic)	0.000000		

Source: E-View 10 Output (2023)

Discussion of Findings

The result of the study as explained above indicated that prime cost has a positive but insignificant effect on return on capital employed of listed consumer goods companies in Nigeria. This suggests that there is an insignificant relationship between return on capital employed and prime cost The study is in tandem with the findings of Ali-momoh *et al.* (2022), and Sholika, (2021) while on the contrary opinion disagree with the findings of Kong Yushang *et.al.* (2020) Also, it is evidence from the findings that fixed overhead cost has a negative but significant effect on return on capital employed. This study also congruent with the study of Eneisik (2019) but disagreed with the study of Godwin *et al.(* 2019).

CONCLUSION AND RECOMMENDATIONS

The study analyzed the effect of cost management mechanisms on financial performance of listed consumer goods companies in Nigeria. Based on the study findings reached through the study objectives guided by the study hypotheses, the following conclusion were made; the study affirmed that prime cost has a positive but insignificant effect on return on capital employed while fixed overhead cost has a negative but significant effect on return on capital employed of listed consumer goods companies in Nigeria. Based on the findings of this study, the following recommendations are made for efficient management of consumer goods companies in Nigeria.

i. Based on this finding, it is recommended that the management of consumer goods companies in Nigeria should reduce their prime cost since it has insignificant effect on financial performance.

ii. The study recommended that the management should work on their fixed overhead cost so as to enhance financial performance of listed consumer goods companies in Nigeria

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