Original Research

Cost Structure and Financial Performance of Quoted Industrial Goods Manufacturing Companies in Nigeria

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Abstract

Cost structure has considerably been a topical issue in the Manufacturing sector as it affects financial performance of the manufacturing companies and has not received reasonable attention in the accounting literature. The various components of cost structure were carefully assessed as independent variables and how they affected financial performance of the selected manufacturing companies. Return on Assets (ROA) was used to proxy financial performance of the companies. This paper aims at assessing the impact of cost structure on financial performance of quoted manufacturing companies in Nigeria. 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 financial performance of selected manufacturing companies quoted by the Nigerian Exchange Group. The study recommended that cost structure should be well analysed into those components and the cost of each of the components should be investigated in order to manage and control the impact on the profitability of manufacturing companies.

Keywords: Cost components, direct cost, financial performance, indirect cost, industrial goods manufacturing companies, variable costs.

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Introduction

In today's competitive company environment, cost structure is critical to profit maximisation. As a result of incorrect cost structure control in commercial transactions all over the world, the manufacturing industry has faced worldwide issues that have posed a threat to healthy survival and competition. As a result, businesses, particularly manufacturing businesses, are now competing on a global scale (Kumar *et al*, 2016). As a result of the current trend, the market has shifted dramatically from a seller's to a buyer's market. Local manufacturing firms must compete favorably with overseas firms in terms of pricing forces, as established by the Cost Structure. Manufacturing companies should focus more on cost reduction in order to increase profitability because financial performance is directly measured by its profitability. This also demonstrates the importance of adequate control costs in order to declare accurate and fair earnings in a given time. A corporation with a balanced Cost Structure, according to Gunarathne and Samudrage (2018), has a better probability of improving financial performance. According to Johnson (2018), in order to achieve financial success and healthy growth, there should be a consistent and continual improvement in effective planning and other operations within the organization.

In Nigeria, the consumer market is currently saturated with both international and native products at various costs. As a result, consumers can now choose to buy cheaper products regardless of where they come from. As a result, profitability suffers since fewer products from manufacturing companies are purchased because customers are more sensitive to market price changes. Furthermore, production overhead expenses are significant, especially when combined with the high cost of doing business in Nigeria, such as power costs and other directly attributable production costs. In order for manufacturing firms in Nigeria to maintain a good financial performance, their cost structures must be properly controlled and monitored. Technological advancement and information system has led to changes experienced in the manufacturing processes.

Adequate control of cost structure makes possible the reduction in production cost, reaching competitive level and profitability for the manufacturing companies. Okwo and Ugwunta (2012) researched on the impact of input costs on firm profitability of the breweries in Nigeria. It was also stressed that general administrative expenses (indirect cost) had no significant relationship with profitability. Adigbole, *et al*. (2020) opined that there was a positive significant relationship between cost management practices and firm's performance in the manufacturing organisations. A well-managed cost structure entails controlling direct and indirect costs in order to maximize profits and create wealth.

It was argued that a positive relationship exists when considering Strategic Cost Management techniques as part of critical factors that enhance sustainable financial performance of manufacturing companies (Kumar & Vimala, 2016). In regards to the various findings of researchers on the impact of cost structure on financial performance of manufacturing companies in Nigeria, further work needs to be done to assess the impact of cost structure on profitability of manufacturing companies in order to bring out more suitable findings.

There have been inadequate studies on the effect of cost structure on financial performance of industrial goods manufacturing companies in Nigeria. The focus of the existing literature is

on direct and indirect cost and how they affect profitability. It is also noteworthy to state that existing studies focused on the cost classification as variable and fixed components. The current study focuses on further classification of cost structure into operating expenses structure, direct cost structure, employees' salaries and allowances structure, depreciation and amortization structure and finance cost and tax structure. The effects of these components on financial performance of industrial goods manufacturing companies which have not been covered in the previous studies are investigated. The pertinent questions raised here are what constitutes cost structure and how does each of the components affect financial performance of industrial goods manufacturing companies in Nigeria?

The main objective of this study is to evaluate the impact of Cost structure on financial performance of quoted industrial goods manufacturing companies in Nigeria while the specific objectives are to assess the components of cost structure and to evaluate the impact of those components of cost structure on financial performance of the companies.

This study is limited to seven Quoted industrial goods manufacturing companies in Nigeria. The study covers a period 2011-2020 (Ten years). The choice of these Quoted industrial goods manufacturing companies is based on the consistency of these industrial goods manufacturing companies on the Nigerian Exchange Group and being among companies that reported highest sales volume for the period covered.

The subsequent sections of this paper are Literature Review on the conceptual and empirical studies as well as establishment of a relationship between cost structure and financial performance in order to formulate the study hypotheses. The rest of the paper deals with Data and Methods, Data Analysis and Discussion of Findings, and Conclusion and Recommendations.

Literature Review and Hypotheses Development

Cost Structure

Cost structure can be defined as the proportion of fixed costs and variable costs in the firms (Pualam & Wibowo, 2019). There are always fluctuations in the variable costs as they are determined by the unit of productions change while fixed costs remain constant when no additional asset is acquired. Cost structure refers to an outline of the funding structure into the various operations of organization and is divided into fixed and variable costs (Chen *et al.*, 2019). There are also some costs that are not classifiable as fixed or variable costs. Such costs are classified as semi-fixed or semi-variable costs (Obamuyi, 2013)

Determinable changes of production and competitive environment being experienced in the 21st century have called for Strong and viable cost structure for the modern manufacturing companies in the world. Cost structure analysis is important for the accounting, cost control, decision making and planning (Dahal, 2018). This is done to determine the cost behavior of the mixed costs by classifying it into direct and indirect costs. This has created a knowledge gap in respect of the composition of the cost structures of companies in emerging economies, like Nigeria and how it affects financial performance of manufacturing companies.

Financial Performance

Financial performance is a complete evaluation of a company's overall standing in categories such as assets, liabilities, equity, expenses, revenue, and overall profitability (Too & Simiyu, 2018). For internal users, financial performance is examined to determine their respective companies' well-being and standing among other benchmarks. For external users, financial performance is analysed to dictate potential investment opportunities and to determine if a company is worthwhile. The accomplishment of an organization could be measured in both financial (qualitative) and non-financial (qualitative) terms. The financial way of measuring performance comprises Return on Investment (ROI), Return on Assets (ROA), Earning Per Share (EPS), product market performance (market share), shareholders returns (dividends ratio), Economic Value Added (EVA, and Stock price). The aforementioned measures of organizational performance produce effective and success indicators of firm's accomplishments being talked about. The studies carried out by Gunday *et al,* (2011) and Shaukat *et al,* (2013) used these performance indicators to buttress their points. The current study considers Return on Assets as a proxy for the measurement of performance for the selected manufacturing companies quoted by the Nigeria Exchange Group.

Direct Cost (DIRC) Structure and Financial Performance

Direct costs can be referred to as directly attributable cost of production. Cokins (2002) explained the effect of direct costs such as direct material cost and direct labour cost on the financial performance. Among the different cost classifications, direct cost is essential for decision making and which is behavior based that aims at describing costs and revenues at different level of activity (Horngren, *et.al*, 2016).

Activity or volume of transactions can be measured in relative terms of units produced or sales recorded number of hours worked, kilometers covered or any other relevant measure. Generally, direct costs are readily identified and traceable to a particular product, operation or plant.

Operating Expenses (OPEX) Cost Structure and Financial Performance

Operating expenses relate to those costs incurred on the running of the company's activities, and also connected to the effective use of the assets. The allocation of costs is primarily linked to the financial performance (Swink, *et.al,* 2005). Enlarged operating expenses might have significant effect on financial performance whereas low operating expenses do not necessarily enhance better financial performance.

The extant studies conducted in the past concluded that efficiency in operating cost could be closely connected with financial performance of manufacturing companies. Dhillon (2012) showed that insignificant positive correlation existed between profitability and operating expenses.

Employees' Salaries and Allowances (EMSA) Cost Structure and Financial Performance.

Employees' salaries and allowances relates to the accounting recognition of human assets in financial reporting. Balogun and Omotoye (2020) stated that direct costs include wages for

the factory workers that are on assembly line while indirect costs are associated with other support staff. Salaries constitute fixed compensation paid to an employee as a result of work done. Allowances relate to those benefits paid or payable other than salaries and earned emoluments.

Ifurueze & Odesa, 2014 examined the relationship between employee's costs and financial performance with the use of structured information and annual financial reports of selected firms in Nigeria. The current study seeks to evaluate the impact of employees' salaries and allowances on financial performance of quoted manufacturing companies in Nigeria.

Depreciation and Amortization (DEPA) Cost Structure and Financial Performance.

Fixed costs in the form of depreciation and amortization are 'real' fixed costs that represent the economic value of assets used and consumed in respect of property, plant and equipment and intangible assets respectively. Depreciation and amortization are very much a point of interest when considering fixed costs, considering the effect it has on financial performance.

Finance Cost and Tax Structure (FCOT) and Financial Performance.

International Financial Reporting Standards (IFRS), International Accounting Standards (IAS 23) defines finance cost as 'interest and other costs that an entity incurs in connection with borrowing of funds'. Finance costs are also known as 'financing costs and 'borrowing costs'. These costs are incurred through borrowing and loans. These costs which can also be regarded as interest expenses, affect the financial performance of a firm. This invariably poses a threat to the financial stability of manufacturing companies if not properly managed.

Adenugba *et al*. (2012) had a research work done on the effect of financial leverage on corporate performance of manufacturing companies. The findings of the research show that finance cost has general impact on corporate financial performance as shown by dwindling Return on Assets (ROA) over a period of time. The effect is generated from the fact that repayment of interest element of the borrowed funds was due on yearly basis.

Tax structure defines the component of cost classification that entails compulsory payment to the Relevant Tax Authority for a given period of time. Policy implications of Finance Acts, 2020 provides that taxation is basically the process of collecting taxes within a particular location (Abiahu *et al*, 2020). A tax policy defines the cost structure of firms as it is factored into the pricing model of the company (Abiahu *et al*., 2021).

Theoretical Review

This study is underpinned on the *Kaizen* Costing theory.

Kaizen Costing Theory

The term Kaizen originated from Japanese citizen, known as Masaaki Imai. The concept, *KAIZEN* combines two Japanese words: KAI(change) and ZEN (for better). The concept means "the process of continuous improvement". This theory talks about achieving small, gradual but continuous improvements in the process of production at minimal cost. The customer's demands and specifications are met with the help of Kaizen costing system. All the processes that trigger product cost up are eliminated sequentially.

This technique has impacted manufacturing companies not only in Japan, but also all over the world (Ogundele, 2004). Novak *et al*, (2014) defined Kaizen costing as the "process of continuous improvement, encouraging constant reductions by strengthening the standard".

Jayeola *et.al*. (2012) observed that Kaizen Costing ensures that products meets or exceeds customer demands for 'quality, functionality, and prices' in order to sustain the product's competitiveness.

The current study therefore ensures good financial profitability by encouraging continuous and systematic reduction in the product cost.

Empirical Review

Kumar & Vimala (2016) carried out a study on the impact of cost structure on financial performance of manufacturing companies and which was found out that the cost structures of the selected companies were varied from one another during the study period. The average ratio of raw material costs, power and fuel costs, and finance costs in Auropharma as a percentage of net sales were extremely high as well as the costs of employees' wages, sales and administration. It was also seen that depreciation cost and manufacturing expenses as a percentage of net sales were higher than the industry average. Hence, the results were said to have affected the financial performance of the selected companies.

According to the study carried out by Akinbor and Okoye (2012), it was found out that aggressive Strategic Management practices determine the extent to which competitive advantage in the maintaining industry influences the corporate financial performance. Research questions were raised, in addition to the review of related literature. The population of the study consists of Chief Accountants, Chief Executives and Marketing Directors of the quoted manufacturing companies listed on the Nigerian Stock Exchange (NSE) of 2009 fact book. Using tables, bar charts and mean scores for the data analysis, my findings reveal that Strategic Cost Management impacts financial performance of manufacturing firms.

A study carried out by Oyewo and Ajibolade (2019) on Strategic Cost Management concentrated on Nigerian manufacturing companies, identifying the various factors that influence the adoption of Cost Structure Management as a competitive strategy for survival and fostering a better financial performance. It was established that cost structure has significant impact on financial performance of manufacturing companies. Data collected were subjected to statistical procedures using Mann-Whitney test through the data survey analysis. From the findings of this work, there are some challenges limiting the adoption and implementation in Nigeria.

Oluwagbemiga, *et al* (2014) worked on the relationship that exists between cost management practices and firm's performance in the manufacturing companies using data from 40 manufacturing companies listed on the Nigeria stock exchange during the period of 2003 to 2012. The study used the audited financial statements of the selected manufacturing companies. Direct material cost, direct labour cost, production overhead cost and administrative overhead cost were taken as independent cost management variables while profitability (Operating profit) was taken as dependent variable representing the firm"s performance. The result shows that a positive significant relationship exists between cost management practices and firm's performance in the manufacturing organization.

The relationship between standard costing and cost control in the Nigerian oil and gas industry was explored by Cletus and ThankGod (2015). This was accomplished by doing a review of the existing literature and formulating hypotheses. Petroleum marketing companies registered in the Nigerian Stock Exchange Factbook of 2012 made up the study's population. Both primary and secondary data collection methods were used to get the information needed for this investigation. The primary data was gathered through the administration of a 5-point Likert scale questionnaire, while the secondary data came from the 2011 Nigerian Stock Exchange Factbook.

The study carried out by Muogbo (2013) US investigated the impact of Strategic Cost Management techniques on organizational growth and development in selected manufacturing firms in Anambra state, Nigeria. Descriptive survey design was used to collect detailed data for analysis. The sample was brought out of the population in a cluster mode. In the study, structured questionnaire was used to collect information from targeted respondents. It was found out that Strategic Cost Management was not popular in Anambra state despite its impact on organizational performance.

Okwo and Ugwunta (2012) also assessed the effect of input costs on the profitability of selected brewing firms in Nigeria. The annual financial reports of the firms were sampled for a period of 1999 to 2010. A multiple regression model was applied as explained by Ordinary Least Squares. The Leading ratio used is Ratio of Selling and General Administrative Expenses (RSGAE). This was used to show the impact of company's operating expenses on profitability. The impact was said to be positive.

In Global Communication Limited, Lagos, Nigeria, Balogun and Omotoye *et al* (2020) explored the impact of remuneration on employee performance. It was decided to use a descriptive research design. For data collection, a questionnaire format was used, which was broken down into multiple sections and delivered in 120 copies. For data analysis, descriptive and inferential statistics were used. The findings demonstrated that there is a considerable association between Global Communications Limited's remuneration plan and employee performance, as well as a big problem influencing Global Communications Limited's payment system and employee performance. Global communication limited, according to the study, should utilize more work-related remunerations rewards design to motivate their personnel.

Gaps in Literature

Few of the studies carried out employed primary data. Oguo and ugwunta made use of annual financial reports to show the impact of Cost structure on company's profitability. Oluwagbemiga, *et.al* (2014) also made use of the companies' financial statements, and this was done in Kenya. It is discovered that very few of these studies were done in Nigeria, even the few ones done in Nigeria do not focus on various components of Cost Structure, and hence the need for additional work in Nigeria is necessary. The current study intends to contribute to the existing body of studies through annual financial accounts of the selected manufacturing companies in Nigeria considering the effect of the components of Cost Structure on financial performance of Manufacturing Companies. The hypotheses are stated thus:

Ho1: Direct cost structure has no significant impact on financial performance of manufacturing companies.

Ho2: Operating expenses cost structure has no significant impact on financial performance of manufacturing companies.

Ho3: Employees cost and allowances cost structure has no significant impact on financial performance of manufacturing companies.

Ho4: Depreciation and amortization cost structure has no significant impact on financial performance of manufacturing companies.

Ho5: Finance cost and tax structure has no significant impact on financial performance of manufacturing companies.

Data and Methods

The study adopted a descriptive statistics such as mean, standard deviation and coefficient of variation. The data were collected from secondary sources such as the audited financial reports of the selected manufacturing companies for the period of 2011-2020, and which were used for the testing of the impact of Cost Structure on financial performance. The population of 12 industrial goods manufacturing companies, out of which 7 companies are sampled out for the research work, was considered. The industrial goods manufacturing companies selected for the study include Berger Paints Nig.Ltd, Better Glass Company, Chemical and Allied Products (CAP), Cutix Nig. Ltd, Lafarge Cement Wapco Nig. Ltd, Meyer Plc and Premier Paints. The sample used truthfully and fairly represented the population.

The measure of central tendency and dispersion for all variables was analysed. Correlational and regression data analysis techniques that show the relationship between Cost Structure and financial performance was used.

Model Specification

The study adopted econometric model in investigating the association between cost structure and financial performance. The econometric model according to Singh, 2019 was written in explicit form as follows;

FP = f (CS) …………………………….……………………......…i

FP = $\beta 0$+CSt + μ …………………………………………….....ii

Equation (i) and (ii) can be modified and proxy as:

$ROA = \beta 0 + \beta 1 DIRC_{it} + \beta 2 OPEX_{it} + \beta 3 EMSA_{it} + \beta 4 DEPA_{it} + \beta 5 FCOT_{it} + \mu_{it}$… iii

Where:

CS = Cost Structure

FP = Financial Performance

DIRC = Direct cost to revenue expressed in percentage

OPEX = Operating expenses to revenue expressed in percentage

EMSA = Employee and Staff Allowances to revenue expressed in percentage

DEPA = Depreciation and amortization cost to revenue expressed in percentage

FCOT = Finance cost and tax to revenue expressed in percentage

$\beta 0$ = Slope

β =   Coefficient of the variables

U   = Error Term

Measurement of Variables

Table 1. shows how the variables are measured.

Table 1. Measurement of variables

S/N	Variables	Description	Measurement	Source
1.	Financial Performance	Firm's performance measured in financial term (Return on Assets) as performance indicators	Profit for the year divided by Total assets	Adigbole and Osemene, 2020.
2.	Direct/variable cost structure in percentage, DIRC	Direct and related cost to production	Cost of sales divided by revenue and expressed in percentage	Novák and Popesko, 2014
3.	Operating expense cost structure in percentage, OPEX	Operating and fixed cost related to production	Operating cost divided by revenue and expressed in percentage	Novák and Popesko, 2014
4.	Employees cost structure in percentage, EMSA	It is the expenses that are expended on labor or man power that aid in the production process	Employee cost divided by revenue and expressed in percentage.	Novák and Popesko, 2014
4.	Depreciation and amortization cost structure in percentage, DEPA	This includes all expenses incurred as a result the usage of assets for production	Depreciation and amortization divided by revenue and expressed in percentage.	Novák and Popesko, 2014
5.	Finance cost and tax structure in percentage, FCOT	This includes all interest expenses charged as a result of core activities	Interest expenses and tax divided by revenue and expressed in percentage.	Novák and Popesko, 2014

Data Analysis and Discussion of Findings

Descriptive Statistics of the Variables

The descriptive statistics of panel variables aid the understanding of their distribution and also the possibility of outliers, which can affect the robustness of the model estimate. Table 2. report the result of the descriptive statistics of the variables. The average of sampled ROA was 8.5587%, with industry median value of 7.2127. The maximum ROA was 53.9594 and minimum stood at -26.3705. The average variation of the ROA was 15.77, which is more than the mean. This implies that the firm's performance was not uniform and highly dispersed. There are many low performing manufacturing firms in the variables. ROA exhibited positive skewness and the Jarque-Bera result indicates that the variable is normally distributed. This is not an unexpected result, because some firms perform better than others. The operating expenses to revenue of the firms report positive skewness and lepkurtic distribution. It exhibits low degree of variation because the standard deviation is less than the mean. Also, the median and mean of the variable are close, implies that there is less likelihood of encountering outliers in the operating expenses to revenue. Operating expenses to revenue exhibited low dispersion and report an average value of 19.458. The average of direct cost to revenue stood at 66.59 with median value of 63.76. Employee and staff allowances report the maximum value of 21.772. The minimum employee and staff Allowances was 1.5711. The depreciation and amortization cost to revenue report an average of 4.6995. Finance cost and tax to revenue stood at 28.8209 in average DIRC and EMSA variable accept the null hypothesis of normality, while ROA, OPEX, DEPA and FCOT reject the null hypothesis of normality and accept the alternative.

Table 2. Descriptive Statistics

	ROA	DIRC	OPEX	EMSA	DEPA	FCOT
Mean	8.448760	64.59500	19.45870	10.36454	4.699583	28.82090
Median	7.217500	63.76365	16.92435	9.315950	3.497100	22.70600
Maximum	53.95940	79.33180	41.06230	21.77230	15.15220	109.7590
Minimum	-26.37050	48.51330	5.039100	1.571100	0.512600	4.064000
Std. Dev.	15.77903	8.534211	9.756075	4.102061	4.131880	22.56251
Skewness	0.732176	-0.165190	0.515282	0.624710	1.481200	1.707360
Kurtosis	4.132578	1.816230	2.023289	3.180793	3.915495	5.507865
Jarque-Bera	9.995597	4.405510	5.880076	4.648391	28.04066	52.35331
Probability	0.006753	0.110498	0.052864	0.097862	0.000001	0.000000
Observations	70	70	70	70	70	70

Test of Variables

Correlation Matrix

The essence of correlation analysis in this study is to identify the likelihood of multicollinearity. The presence of multicollinerity problem in the least square can leads to false inference. Multicollinearity will make it difficult to isolate the differential effect

of the variables. The existence of multicollinearity will lead to high correlation between the variables and therefore understates or overstates the standard error of the estimate. In view of this, the study obtained the correlation among the variables as reported in table 3. The correlation results showed that the independent variables were not highly correlated with each other. Form the evidence in the table 3; it was obvious that existence of multicollinearity is less likelihood among the variables.

Correlation Analysis: Ordinary

Table 3. Correlation Analysis: Ordinary

t-Statistic	ROA	DIRC	OPEX	EMSA	DEPA	FCOT
ROA	1.000000					

DIRC	0.260644	1.000000				
	(2.226281)	-----				
OPEX	-0.069462	-0.574459	1.000000			
	(-0.574182)	(-5.787322	-----			
EMSA	0.352716	0.021734	0.322105	1.000000		
	(3.108346)	(0.179264)	(2.805676)	-----		
DEPA	0.319460	0.184545	-0.175662	0.397603	1.000000	
	(2.780004)	(4.567686)	(-1.471428)	(3.573310)	-----	
FCOT	0.620696	0.371537	-0.101059	0.389425	0.293656	1.000000
	(6.528128)	(3.299988)	(-0.837643)	(3.486514)	(6.083381)	-----

Note: t-value of the correlation coefficient in parenthesis

The impact of cost structure on financial performance was analysed in this section as reported in table 4.3. The result of the analysis comprises of both random and fixed effect model. These two models were obtained with a view to determining the best and appropriate model of estimation. Different tests were conducted after the estimation in order to examine the robustness of the model. The first test conducted prior to post estimation is the Hausman test. The tests aid the study in assessing the significant difference between random effect and fixed effect. When the p-value of the Hausman test is less than 0.05, the study prefers fixed effect, but when the p-value is greater than 0.05, random effect is preferable.

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The outcome of the test as in the table 4. shows that fixed effect model is the most appropriate model, because the p-value of the test was less than 0.05. The result of the post estimation test such as Heteroskedasticity LR Test and Serial Correlation Test indicates that the model is robust and frees the problem of Heteroskedasticity and Serial Correlation. The explanatory power of the model as capture by R-squared of the model indicates that 57.74% of the variation in the dependent variable was accounted for by the explanatory variables. The f-value indicates that the variables are jointly different from zero at 5% level of significance.

Table 4. Regression Analysis of the Estimate

Dependent Variable: ROA						
	Random Effect Model			Fixed Effect Model		
Variable	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
DIRC	-1.0658	-10.6278	0.0000	-0.7463	-3.9466	0.0002
OPEX	-0.4177	-1.9336	0.0576	0.2796	0.8771	0.3840
EMSA	-0.3425	-1.5418	0.1281	-0.2371	-2.3726	0.0210
DEPA	-0.3723	-4.2327	0.0001	-0.1842	-2.4793	0.0161
FCOT	-0.0007	-0.6907	0.4922	-0.0010	-1.1246	0.2654
C	96.6523	10.7421	0.0000	55.0382	5.2673	0.0000
R-squared	0.6422			0.8025		
Adjusted R-squared	0.6143			0.7651		
F-statistic	22.9826			21.4374		
Prob (F-statistic)	0.0000			0.000000		
Hausman Test	14.3211(0.0005)					
Heteroskedasticity LR Test	9.5833(0.2701)					

Discussion of Findings

According to the analysis of the various cost structure variables in relation to the financial performance of the manufacturing companies, it shows that all the variables all the variables of cost structure have significant impact on financial performance of the manufacturing companies under this study with the use of Fixed Effect Model. The result in table 4. shows that cost structure impacts financial performance of the quoted manufacturing companies considered for this study for direct cost, employees cost and allowances, depreciation and amortization and finance cost and tax only with p-value of 5%while operating expenses has p-value of > 5% using Random Effect Model.

The variable of direct cost exhibited negative relationship with the financial performance of the firms (t=-1.1041, p<0.05). The coefficient of -0.7463 indicates that direct cost of the firms leads to reduction in the firm performance. Employee expenses had negative statistical relationship with the financial performance of the firms (t=-2.3726, p<0.05). Rise in employee expenses reduce the firm performance with coefficient of -0.2371. This implies that increasing employee expenses in Nigeria is not favourable for performance of the firms. However, insignificant relationship was discovered between firm performance and direct operating expenses with t-value of 0.8771 Depreciation and amortization cost report negative effect on the financial performance (t=-2.4793, p<0.05). Depreciation and amortization cost is an essential cost in manufacturing because equipment must surely experience wear and tear. However, finance and tax cost exhibited statistical insignificant relationship with the firm performance at 5% level of significance. In summary, some variables of cost exhibited significant negative relationship with performance of the firms, while some such as operating cost and finance cost failed to exert significant effect on the firm performance. Although, they report negative sign effect, but statistically failed at 5%.

The results revealed by Akinbo and Okoye (2012) support the current findings that a firm's profitability is significantly affected by the increase in cost of input, like material and labour. Also, Oluwagbemiga, *et.al,* (2014) showed that cost management practices have significant impact on the profitability of manufacturing organisations. In the work done by Okwo & Ugwunta (2012) the findings of the current work are supported as cost practices have significant impact on the financial performance of manufacturing companies in Nigeria. The study done by Oyewo (2017) also supports the findings of the current work. The findings of Muogbo (2013) were opposed to the current findings.

The result of the current study shows a significant impact of cost structure on financial performance of the selected manufacturing companies quoted by the Nigeria Exchange Group.

Conclusion and Recommendations

The outcome of the study has been able to point to the objective of this study on determining the impact of cost structure on financial performance of quoted industrial goods manufacturing companies in Nigeria. The study concludes that the impact of the various components of cost structure has been significant on the financial performance of quoted industrial goods manufacturing companies in Nigeria. The users will find it satisfying in adopting cost structure control and management practices to enhance healthy financial performance in their respective companies. The study recommends that there should be conscious effort by management of industrial goods companies to control the cost structure components separately so as to report strong financial performance. There should be geared efforts on the part of the company's management towards analytical assessment of cost structure taking cognizance of burden of each of the components of cost structure in order to determine reasonable profit maximization level that can contribute to the overall performance of the companies.

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