Cost Control and Financial Performance of Pharmaceutical Firms in Nigeria

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Abstract: This paper examined the impact of cost control on financial performance of pharmaceutical firms in Nigeria from 2010 to 2019. Secondary data were used in this study. The secondary sources of data were sought from published annual reports of the six quoted pharmaceutical firms in Nigeria. The variables used in the study include; Profit after Tax (PAT), Cost of Raw Material (CRM), Selling and Distribution Expenses (SDE), Salaries and Wages (SWE), Research and Development (RDC) and Training (TEC). Panel regression analysis was employed to evaluate the impacts of cost control on financial performance of pharmaceuticals firms in Nigeria. The results revealed that cost control has significant influence on financial performance of pharmaceuticals firms in Nigeria. The study recommended that the management of the firms should adopt modern strategic cost management method for effective operation in the organization in order to enhance their performance.

Keywords: Cost Control, Financial Performance, Nigeria, Pharmaceuticals Firms, Profitability.

1. INTRODUCTION

Cost control sets a platform for managers to make effective strategic decision towards production process (Rashmi and Yaltish, 2017). Cost control is an important and has always been an important issue but perhaps most important today's unpredictable market with few exceptions, at no other time in history has the business market been more dynamic. The issue of cost control management is necessary in the operations of manufacturing companies in order to adequately utilize the material resources. Cost control involves the management measures implemented to ensure that cost proceeds in accordance with management plan. The importance of cost control cannot be over emphasized as a survival technique for manufacturing companies because they ensure proper monitoring of cost against budget and correct any financially impropriety of the company.

Cost and profit in business undertakings form part of what determines the financial position of a business concern. Since management is concerned with profitability, which is a measure of business performance especially in a manufacturing company, the need for higher sales will arise and this will facilitate the need to increase production capacity, which in turn brings

about increase in cost. Siyanbola and Raji (2013) were of the opinion that corporate bodies should watch the cost and the profit will take care of itself. The implication is that cost should be controlled rather than embarking on unscientific cost reduction that may translate to lowering the quality of product.

Management is normally forced to adopt various methodologies and techniques in order to regulate rather than reduce cost. Cost increases as various production activities are embarked upon and the need to keep cost in check arises because standards for production will be set and actual production will be made thereby bringing about variances which can only be reduced or eliminated through effective cost control.

The manufacturing companies that are still operating within the Nigerian market have resulted in using cost control as a strategy for sustaining their earnings. Cost control strategy are expected to be an integral part of any profit - making venture that wants to continue in business, especially in the current downturn as no firm will stay in business if it does not put precise mechanisms in place to check its costs so that the expenses do not surpass the estimated projections. If charges are not properly checked, the outcome can be detrimental to the smooth running of the business. Company management must match budgeted and actual costs and strive to ensure that they always remain within the estimated projections.

Sikka (2003) was of the opinion that cost control system consists of methods and procedures that helps to regulate the cost of operating an undertaking and ensures that cost do not go beyond a certain level. As profitability amongst others is the essence of any business, there will be the need to incur reasonable costs and management is to ensure careful and efficient use of resources so as to achieve the set standard or target. Cost control is operated by setting of standards and maintaining the performance according to standard because, as management aspires to increase productivity for more profit, there will be increasing cost and collection of cost will be made by each area of responsibilities.

In the light of the above, this paper attempts to discuss how cost control techniques could be effectively used in order to regulate expenses and bring about increased in profitability. The study therefore hypothesis that cost control techniques has no significant impact on pharmaceutical firms' performance in Nigeria.

Literature Review
Conceptual Issues

CIMA in its terminologies of cost accountancy defined cost control "as the guidance and regulation by executive action of the costs of operating an undertaking, particularly where such action is guided by cost accounting" . Anthony (2005) regards cost control as cost management or cost containment and defined it as a broad set of cost accounting methods and management techniques with the goal of improving business cost efficiency, by reducing costs or at least restricting their rate of growth. Businesses use cost control methods to monitor, evaluate and ultimately enhance the efficiency of specific areas, such as departments, divisions or product lines within their operations. In his words, Lockyer (2002) regards cost control as a practice of comparing the cost of a business activity with the original cost in order to ascertain if the cost is as planned. Sikka (2003) further discussed that in cost control, the first step is to set up the target to be achieved, i.e. the goal or objectives to be attained, the cost control system guides the organization to reach that goal.

For this purpose, budgets or standards are used to provide the yardstick against which the actual costs and performance may be compared. If at any stage, it is noticed that the expenses

are showing a trend away from the goal, resulting thereby in a variance from the target, the cost control system helps to regulate this trend and eliminate the variations. This guidance and regulation is by executive action or action taken by the executive, who is responsible for incurring the expenditure. It should be clearly understood that a cost accountant, by himself, does not control the expenses. He merely assists in the control of expenses since expenditure can be controlled only by the person who incurs it. The cost accountant brings to the notice of the executive concerned, the exact point on which an action is required of him for regulating the expenses. Thus, cost control is the guidance and regulation through an executive action and this executive action is exercised in respect of all the expenses incurred in operating an undertaking. Cost control comprises all procedures and measures by which cost of carrying out an activity is kept under check and aims at ensuring that costs do not go beyond a certain level.

According to Horngren, Forster and Datar (2002), the term cost control ' ' is widely used today, and no uniform definition exists. They explained that cost control is used to describe the activities of manager in short-run and long-run planning and management of costs. They further proceed that the planning and cost control is often inextricably linked with revenue and profit planning. Agara, (2005) opines that cost control is "a process whereby targets are set against which the daily incidence of cost is compared to ensure that cost targets are not unduly exceeded''. He went further to buttress the point that cost control, therefore, involves all methods of limiting the frivolous and unguarded expense of resources by managers to avoid unnecessary creation of liabilities. Adeniyi, (2008) explained that cost control is the regulation of cost of operating a business and it's concerned with keeping costs within acceptable limit. He said these limits will usually in a formal operational plan or budget. He proceeded to state that, if actual cost differ from planned cost by an excessive amount, cost control action will be necessary.

I.C.A.N (2009), define cost control as a process that involves all methods of controlling costs within a pre-determined target. He further explained that cost control ''is a process of setting targets and receiving feedback information in order to ensure that actual performance are in line with set target and, if not, take corrective action''. The researcher is of the view that most standard definition of cost control are more or less along the lines of quoted authors above. The researcher sees cost control as the practice of managing and/or reducing business expenses. Cost controls starts by the businesses identifying what their costs are and evaluate whether those costs are reasonable and affordable. Then, if necessary, they can look for ways to cut costs through methods such as cutting back, moving to a less expensive plan or changing service providers. The cost-control process seeks to manage expenses ranging from phone, internet and utility bills to employee payroll and outside professional services. For example, the researcher observed in the course of this study, that for a company to be profitable, they must not only earn revenues, but also control costs. If costs are too high, profit margins will be too low, making it difficult for a company to succeed against its competitors. In the case of a public company, if costs are too high, the company's may find that its share price is depressed and that it is difficult to attract investors.

Theoretical Frameworks
Kaizen term with Japanese origin was launched by Masaaki Imai the concept is a coinage of two Japanese words: KAI (Change) and ZEN (for better). This refers to the process of continuous improvement (Sani, 2012). The principle behind Kaizen Costing application is on

achieving small, gradual but continuous improvements in the production process at minimal cost (Rof, 2012). However, Kaizen Costing ensures that products meet the demands of the customer for product's competitiveness. This can be achieved through a sequential elimination of all the processes that would increase the product's cost of production without a corresponding increase in value (Rof, 2012).

This technique has made tremendous changes in management policies not only in Japan, but all over the word (Ogundele, 2004). Kaizen costing technique focuses on making production and service delivery processes more efficient. Kaizen costing is used for making improvement to a process through small incremental amounts, rather than through large innovations. Unlike target costing, Kaizen costing is applied during the production stage of the product life cycle. Adeniyi (2011) asserted that Kaizen costing is the process of continuous improvement, encouraging constant reductions by tightening the standard. The cost reduction objective is to set for each process, and then adopt value analysis and value engineering to achieve the set objective.
This study therefore anchored on this theory in the sense that it encourages achieving small on a continuous process in the production process at minimal cost thereby increase the firm's profitability.

Empirical Evidences
There are a number of studies that were carried out in Nigeria and outside with the view to appraise the various cost control and strategy cost management in manufacturing firms as a survival technique. Some utilize primary data (questionnaire and /or interview) while others used secondary data. According to a research conducted in India by Barbole (2013), is one of those that used secondary data such as books, online articles and descriptive statistics to analysis the study and title ''Impact of cost control and cost reduction techniques on manufacturing sector'' the study review that for a business enterprise to survive, grow, and prosper. Cost Control and Cost Reduction are the activities necessary for ensuring objectives are fulfilled.

The researchers further highlighted that, with the liberalization of the Indian Economy and Globalization, there is now a cut throat competition from various concerns of the world. This has now increased the importance of Cost Control as a survival technique. They further explained different tools and techniques used for Cost Control and cost reduction and analysis the changes in component cost after implementing the various techniques. The researchers study is limited to material cost; it does not cover other overhead such as salary, marketing and distribution expense etc. The study therefore recommends that value engineering; quality control and budgetary control should be used for the purpose of cost control and cost reduction in production plant.

Another study was carried out by Emengini (2014) and title 'product cost management in relation to Activity-Based costing (ABC) by manufacturing companies in a developing country like Nigeria. Data were collected from 58 sampled companies using questionnaire and analyzed using student's t-test and Multivariate analysis variance (MANOVA). The study disclosed that product cost management through application of ABC and traditional costing is geared towards cost reduction and are good strategic cost techniques in controlling cost.

They further review that there is no statistically significant difference in cost reduction attained by ABC over Traditional costing, but though ABC tend to have higher effect and profit realized of ABC is equally higher. Base on the findings, the study recommends that manufacturing companies in developing countries should develop a good tone of management and core values that will promote the utilization of ABC in their costing system, and the use software to facilitate application of ABC. The research is limited to South East of Nigeria. The study also recommends that the initial cost of implementation of ABC should deter the companies from adoption of ABC since its long run benefits surpasses its costs.

Oluwagbemiga, Olugbenga & Zaccheaus (2014) investigate the relationship that exists between cost management practices and firm's performance in the manufacturing organizations using data from 40 manufacturing companies listed on the Nigeria stock exchange during the period of 2003 to 2012. The study relied on secondary data extracted from the audited financial statement of the selected 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 indicates that a positive significant relationship exists between cost management practices and firm's performance in the manufacturing organization.

In another study of Oyewo (2013) determines whether Strategic Cost Management (SCM) techniques are practically used by Nigerian companies and the extent of their utilization- particularly in the Nigerian manufacturing and financial services industries, identify the factors influencing the adoption of strategic cost management and investigate whether strategic cost management can be used as competitive strategy for survival in recessionary times. Questionnaire was used as a major instrument for data collection. Data collected were subjected to statistical procedures using the Mann-Whitney test. The research found out that although Nigerian companies are receptive to the philosophies of SCM, there are challenges inhibiting their adoption and implementation in the Nigerian environment.

Muogbo (2013) examined the impact of strategic management on organizational growth and development in selected manufacturing firms in Anambra State, Nigeria. The study used a descriptive survey design to collect detailed and factual information. Cluster sampling was used to select equal number of manufacturing firms from each sample cluster in the study. The data collection instrument was a structured questionnaire. The study found out that Strategic management was not yet a common business practice among manufacturing firms in Anambra State.

Adesina, Ikhu – Omoregbe and Aboaba (2015) investigated the effect of cost information, sales information and marketing information on profitability. Descriptive and inferential statistics were carried out on the opinion of 222 top management staff purposively selected from the listed manufacturing companies in Nigeria with the aid of statistical package for social sciences (SPSS version 20). The results of the data analysis carried out in the study revealed that a positive significant relationship exists between accounting information and profitability of manufacturing organizations.
Okwo and Ugwunta (2012) evaluate the effect of input costs on the profitability of brewing firms in Nigeria. A cross sectional data was gathered for the analysis from the annual reports

of the sampled brewery firms for a period of 1999 to 2010. Measures of profitability are examined and related to proxies for the inputs cost assumed by brewers. The Ordinary Least Squares (OLS) stated in the form of a multiple regression model was applied in the analysis. The study revealed that the focal variable RSGAE (Ratio of Selling and General Administrative Expenses) designed to capture the effect of a company's operating expenses on profitability is statistically positive and impacts on profitability of the brewery firms in Nigeria.

2. METHODOLOGY

2.1 The Model and Analytical Techniques

The model specification adopted in this study is panel data analysis which includes the time-series and cross-sectional data analysis. This combines both the dependent and independent variables in other to establish the relationship among the variables of cost control and firm's performance in Nigeria. The proxy for firm's performance which is the dependent variable adopted in this study is profit after tax (PAT), while cost of raw materials (CRM), selling and distribution expenses (SDE), salaries and wages (SWE), research and development (RDC), and training (TEC) are the independent variables. Thus, the model is captured in a schematic form as follows;

$$Y = f(x_1, x_2, x_3, x_4, x_5) \ldots\ldots\ldots\ldots.(1)$$
$$PAT = f(CRM, SDE, SWE, RDC, TEC)\ldots\ldots\ldots\ldots.(2)$$
$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \epsilon_t \ldots\ldots\ldots\ldots.(3)$$
$$PAT = \beta_0 + \beta_1 CRM + \beta_2 SDE + \beta_3 SWE + \beta_4 RDC + \beta_5 TEC + \epsilon_t \ldots\ldots\ldots.(4)$$

Where:
- PAT = Profit after Tax
- CRM = Cost of Raw Material
- SDE = Selling and Distribution Expenses
- SWE = Salaries and Wages
- RDC = Research and Development
- TEC = Training
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = parameters to be estimated
- ϵ_t = Error term

This paper focuses on six quoted pharmaceutical firms in Nigeria with the view of assessing the effects of cost control on pharmaceutical firm's performance in Nigeria. It involved the collection and gathering of times series data through secondary sources. The research design is descriptive and empirical in nature. Panel data analysis was adopted as analytical technique.

The variables relate to the trend and magnitude of cost control in Nigeria. We used time series data set of 10 years to explain the variables of cost control (such as CRM, SDE, SWE, RDC and TEC) taking a different set of variables, which provide the basis for drawing conclusion based on concrete evidence deduced from the data collected after empirical investigation. The research made use of both dependent and independent variables as follows; profit after tax, cost of raw materials, selling and distribution expenses, salaries and wages, research and development, and training spanning 2010 – 2019.

2.2 Data Requirement Sources

The research used the time series data generated from secondary sources through the publication of Nigerian Stock Exchange, financial statement of the companies under review, and other related financial journals in an attempt to establish the relationship between the cost control and firms' financial performance in Nigeria. It relied heavily on secondary data drawn from various annual financial statements of the respective firms under review. Data were sourced from six selected pharmaceutical firms in Nigeria, namely; Nigeria–German Chemicals, GlaxoSmithKline Consumer Nigeria, Fidson Health Care Plc, May & Baker Nigeria Plc, Evans Medical Plc and Emzor Pharmaceutical between 2010 and 2019 financial years.

2.3 Panel Diagnostic Test

The variables under study were subjected to the diagnostic test. We first ran a Hausman test to determine whether we will run Random, Fixed or Pooled.

3. RESULTS AND DISCUSSION

The major focus of this section is to evaluate the effect of cost control on firm's performance in Nigeria. Since, the key determinants' firm performance are traceable to the variables which include profit after tax as the dependent variable, while cost of raw materials, selling and distribution expenses, salaries and wages, research and development, and training are the independent variables. The result in the table below showed the ADF Unit Root Test. The result indicated that all variables PAT, CRM, SDE, SWE, RDC & TEC were stationery at all levels. This implies that there were no unit root problems.

Table 1: Unit Root Test

Variables	Stationary
PAT	I (o)
CRM	I (o)
SDE	I (o)
SWE	I (0)
RDC	I (o)
TEC	I (o)

Source: Data Analysis, 2020.

In the conduct of Panel Least Square for the determination of the relationship between cost control and profitability, table 2 revealed that there is a positive relationship between salaries and wages, research and development, training cost and profitability (PAT) while there was negative relationship between cost of raw materials, selling and distribution expenses and profitability (PAT).

The variables are interpreted further for better and clearer understanding thus: CRM had a negative relationship with PAT which meant that CRM has retarding influence or impact on PAT. This assertion arose from the coefficient of the variable -0.479776. This simply explains that a unit increase in CRM may lead to multiple percentage reduction in PAT. The variable also came up to be statistically significant at 1% level of significance with the t-stat and prob. values of -4.051261 and 0.0001 respective. It is also stated that SDE exhibited negative relationship with PAT which meant that the variable had decreased PAT. The claim

is supported by the value of the coefficient of the variable – 0.501640. It can be inferred from the coefficient that one (1) unit increase in SDE has led to super multiple percentage decrease in PAT. The variable also came up to be statistically significant at 1% level of significance with the t-stat and prob. values of -4.142458 and 0.0001 respectively.

In the case of SWE, it presented positive relationship with PAT, meaning that it has the power to improve performance of firms concerned in this study. This claim is further buttressed by the value of the coefficient of the variation 0.475232. This indicated that one (1) unit increase in SWE has produced multiple percentage increase in PAT. The variable also turned out to be statistically significant at 1% level of significance making it a dependable variable in the model. This indicated by values of its t-stat 0.119912 and prob. value 0.0002. It is also noted that RDC exhibited positive relationship with PAT which meant that the variable possess the potential to improving profitability. The claim is supported by the value of the coefficient of the variable 0.126804. What this implied is that a unit increase in RDC may lead to extra ordinary multiple percentage increase in PAT. The reason for this is that, investment in research and development is one of the reasons why some pharmaceutical firms have remained relevant in spite of many challenges. The variable is significant at 1% level of significance as indicated by value of its t-stat 9.735195 and prob. value 0.0000.

Lastly, TEC equally showcased positive relationship with PAT which indicated that the variable has the potential to enhance profitability. The value of coefficient of the variable buttresses this claim as it presented 0.049035 as its value. This implication is that 1% increase in TEC has led to a multiple percentage increase in profitability. The implication is that the increase in training of employees and others stakeholders has the potential to improve profitability. This result is expected because practice is the most crucial factor in the business world because it increases the efficiency and the effectiveness of both employees and the organization. The variable also came up to be statistically significant at 1% level of significance with the t-stat and prob. values of 4.187865 and 0.0001 respectively.

In the final analysis, the coefficient of determination (R^2) 0.558505 indicated that the explanatory variables explained 56% of total variation in PAT among the selected pharmaceutical firms in Nigeria. This can be considered to be above average and of good fit. Additionally, the F-Stat of 5.653812 showed joint significance of the model and revealed that it was significant at 1% level of significance with the prob. value of 0.0000. This simply implied that the null hypothesis is rejected while the alternative hypothesis is accepted which is a clear indication that all the variables have significant influence on PAT of the selected pharmaceutical firms. This means that cost control has significant impact on firm's performance in Nigeria. The Durbin Watson (DW) result of 1.488269 indicated the absence of serial correlation in the model.

Table 2: Panel Least Square on the relationship between Cost Control and Firm's Performance in Selected Pharmaceutical Firms in Nigeria.

Variable	Coefficient Prob.	Std. Error	t – Statistic
CRM	-0.479776 0.0001	0.118426	-4.051261

SDE 0.0001	-0.501640	0.121097	-4.142458
SWE 0.0002	0.475232	0.119912	3.963186
RDC 0.0000	0.126804	0.013025	9.735195
TEC 0.0001	0.049035	0.011709	4.187865
C 0.0000	0.260724	0.044771	5.823470
R-squared	0.558508	Mean dependent var	0.115833
Adjusted R-squared	0.530841	S.D dependent var	0.081510
S.E of regression	0.063874	S.D dependent var	0.322315
f-Statistic	5.653812	Durbin-Waston Stat	1.488269
Prob (F-Statistic)	0.000003		

Source: Author's Computation, 2020

5. CONCLUSION

The objective of this study was to assess the effect of cost control on performance of corporate firms in Nigeria and to determine the relationship among the identified variables that influence the performance of corporate firms in Nigeria. All the reviewed variables in the literature provided some useful insights into cost control thrust in Nigerian firms. Our findings establish that control of cost in manufacturing firms is influenced by factors mentioned in the analysis. From the panel data analysis of the effect of cost control on the performance of selected pharmaceutical firms in Nigeria between 2010 and 2019, it was established that the factors which strongly affect the performance of the pharmaceutical firms in Nigeria include cost of raw materials, selling and distribution expenses, salaries and wages, research and development, and training. The study also concludes that most variables are correlated which means the activities of each variable are related to those of others. Moreover, there is a strong long relationship among the variables with slight variations. Therefore, the summary of the conclusion from the study is that cost control exerts a significant influence on the performance of pharmaceutical firms in Nigeria between the period specified. Based on these findings, the study recommends that good management of raw materials should be pursued by pharmaceutical firms in Nigeria and that the pharmaceutical firms should adopt modern strategic cost management method for effective operation to enable them to be at advantage in competitive with contemporaries in foreign countries. The companies should also increase their resources to staff's research, development and training.

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