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Activity Based Costing and Corporate Performance of Manufacturing Companies

¹Eze, ²Maria N.

^{1,2} Department of Accountancy, Nnamdi Azikiwe University, Awka.

Abstract

This study examined the relationship between activity-based costing methods on corporate performance of chosen manufacturing enterprises in the Anambra state. Descriptive survey research approach was adopted for the study. The population of this study was derived from an estimate of the total number of employees employed full-time in the chosen manufacturing enterprises in the senatorial districts of Anambra North, Anambra South, and Anambra Central. The research hypotheses that were formulated were tested using Spearman Ranked Order Correlation Coefficient with the aid of Statistical Package for Social Sciences (SPSS) V. 22. The study concludes that activity based costing significantly affects the corporate performance of manufacturing companies in Nigeria According to the study's findings, managers of manufacturing companies should develop a practical approach that can be used to identify organizational activities and assign resources to each activity's cost in accordance with each group's actual consumption of the products and services.

Keywords: Activity-based costing methods, Management accounting and Corporate performance

INTRODUCTION

Management accounting has been used consistently for strategic approach towards the identification and measurement of pertinent financial and nonfinancial drivers to enable firms to meet the need for maximizing both shareholders' and customers' value since the industrial revolution began in the 19th century (Ayaundu & Ogoun, 2020; Pradhan, Swain & Dash, 2018). The main responsibility of management accounting practices is to provide firm managers with the required support systems so that they may facilitate the company's overall performance by achieving its goal and subsequently enhance corporate performance. Companies use a variety of management accounting techniques to assess the effectiveness and efficiency of their business operations. Budgeting, variance analysis, target costing, value chain analysis, breakeven analysis, and other methods are some of the approaches used in MAPs. These management accounting tools make a significant contribution to business planning and forecasting, cost management, and decision-making, all of which are ultimately intended to improve corporate profitability (Mustafa & Fehmi, 2017). This has led to the recognition of management accounting procedures as crucial strategic elements in organizations' successful management processes (Horngren, 2019; Njoki, 2017; Bitok, 2017).

Even in the middle of a challenging business environment and a constantly evolving marketing process, manufacturing companies in Nigeria have a variety of products that span the socio-economic spectrum. The majority of manufacturing companies work to turn around their businesses in order to pursue higher corporate performance. In order to assist better planning, directing, and control of the firm's operational expenditures with a view to increasing the profitability of the organization, the firms particularly include management accounting procedures. This is why the current study is being done, with a specific focus on manufacturing enterprises in the state of Anambra, to ascertain the unique impact of management accounting procedures on the corporate performance of manufacturing firms in Nigeria.

Ayaundu and Ogoun (2020) used manufacturing companies in Rivers state; Austin and Ejike (2019) used manufacturing companies in Lagos state; Egbunike and Emiaso (2018) used manufacturing companies in Delta state; Oguntodu and Taiwo (2018) used the fast-food industry in Rivers state; Egbunike, Egolum, and Agwaramgbo (2015) used listed firms on NSE; and Egbunike, Egolum, and Agwaramgbo This is why the current study, which uses activity-based costing to examine the relationship between management accounting methods and corporate performance of chosen manufacturing enterprises in the Anambra state, fills this gap in the literature.

Conceptual Review

Management Accounting Practices

One of a company's most important accounting tools is the management accounting practice, which helps the company include cost accounting data as well as financial and non-financial information for the aim of giving accounting information to managers (Consolata, 2019). The goal is to equip the managers with the necessary skills to oversee and direct business activities in a way that will increase the firm's performance and value. The internal data needed to pursue the company's business goals and objectives are identified, measured, analysed, evaluated, and reported through management accounting to Maziriri1 and Miston (2017), management accounting practices have to do with methods and procedures used to give businesses

management solutions in order to enhancing the internal management process. MAPs are parts of a company's management information systems that give the company the pertinent data that management needs to improve value for its shareholders, investors, clients, and other stakeholders. The benefits of such methods extend beyond the improvement of quality management procedures, supply of management support systems, and facilitation of efficient decision-making.

According to Ayaundu and Ogoun's contribution (2020), management accounting practices (MAP) relate to the entire set of operations that include cost practices, planning, and data for dynamic, strategic inquiry and performance assessment employing strategies. According to Austin and Ejike (2019), managerial accounting practices are a collection of strategies and procedures designed to give managers access to financial data so they can make decisions that will effectively maintain control over corporate resources. In a nutshell, MAPs are strategies and procedures used to forecast, plan, and control business outcomes through managerial decision-making. This decision-making involves selecting amongst potential business actions and regulating through performance interpretation and evaluation.

The tools of management accounting procedures are necessary for many corporate functions, including budgeting, variance analysis, break-even analysis, and other functions, particularly when businesses must plan, direct, and control operating expenditures for improved corporate performance and profitability. As a result, management accounting procedures play a crucial role in businesses because they provide the framework for using the right methods and ideas to handle past and future economic data (Austin & Ejike, 2019). When establishing plans for realistic economic and financial targets, management is always helped by MAPs, which coupled with other factors leads to the making of well-informed rational decisions that are meant to hasten the achievement of the company economic and financial objectives.

Since authors and accounting professionals realized that traditional management accounting practices like standard costing, marginal costing, and assimilation (absorption) costing are too weak and cannot keep up with the dynamic business environment of the twenty-first century, MAP has undergone a number of research studies. Since this understanding, traditional management accounting methods have been criticized for delivering data that is too distorted to be used for managerial decision support planning and control and effective decision support, and for being submissive to financial accounting. A development in management accounting techniques recently added new practices to the system. However, the new approaches, such as activity-based costing, balanced scorecard, etc., should not completely replace the conventional methods. Based on this, the present study measured management accounting practices with three variables viz. value chain analysis, target costing and activity-based costing which are briefly examined below.

Activity Based Costing

Activity-based costing (ABC), according to Egbunike, Egbunike, and Mofolusho (2013), is a costing method and a management accounting practice that allows firms to identify activities in an organization so that the cost of each activity will be assigned with resources to all products and services in accordance with the actual consumption by each. The operating consumption costs, product consumption operations, and operating cost structures by product costs make up ABC's fundamental ideologies. In order to improve the veracity of cost information, the traditional cost accounting system is frequently replaced with the activity-based costing method (Egbunike, Ijeoma & Ebubeogu, 2015). Consolata (2019) argued that the edge that is provided by ABC is that a recognition is given to the fact that in modern businesses, most of the costs are determined by the number of activities that are related to a product or service. Therefore, the principal method of an effective cost control lies more in the optimization of the efficiency of the activities that relate to a product or a service.

Corporate Performance

Corporate performance is the result of all a firm's operations and strategies over the course of a given year. The majority of organizations have always been concerned about maintaining appropriate performance levels while maximizing their levels of profit and firm value. According to Consolata (2019), corporate performance is a subjective indicator of how effectively a company uses resources from its main line of business to increase revenues over time. It is a summary of a company's financial situation. A company's corporate performance is a sign of its capacity and willingness to satisfy its long-term financial commitments and commitment to the delivery of services in the near future. According to Maziriri1 and Miston (2017), corporate performance refers to how business resources were used effectively and efficiently in order to cut costs, increase revenue, and preserve a competitive edge. Corporate performance can still be simply defined as the effectiveness and efficiency of a company in achieving its stated goals and objectives; it is the level of success that a company attained in its operational activities. According to Maziri and Chinomona (2016), corporate performance refers to a company's capacity to excel and satisfy all of its stakeholders.

Empirical Review

The extent to which MAPs used in a firm are distinguished by the characteristics count of the firm was investigated by Ayaundu and Ogoun (2020). The study differentiated between four aspects of the firm's attributes count, including firm size, level of accounting staff certification, market competitiveness intensity, and advanced manufacturing technology. The survey research design was used for the investigation. The Taro-Yamane sampling technique was used to obtain a sample size of 80 from the population of this study, which consisted of manufacturing enterprises in Rivers State. The majority of the primary data used in this study were obtained through questionnaires. The Likert scale, which has five points: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree, was used to structure the questionnaire (5). The Spearman Rank Correlation Coefficient Method was used to analyze the data collected using the structured questionnaire. The analysis's findings showed that the degree of management accounting practices among manufacturing enterprises in Rivers state is statistically significantly correlated with company size, market competitive intensity, accounting staff qualification level, and sophisticated production technology. The impact of management accounting procedures on the financial performance of manufacturing enterprises in Nigeria was examined by Austin and Ejike (2019). Both quantitative and qualitative data were gathered. Regression analysis

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was used for the analysis. The study's conclusions showed that strategic analysis, performance evaluation, costing techniques, and budgeting practices all significantly improved the financial performance of a sample of manufacturing enterprises in Rivers state. Egbunike and Emiaso (2018) investigated the connection between the use of strategic management accounting approaches and the organizational performance of Nigerian manufacturing firms. The study's hypotheses were tested using regression and the t-test. The study demonstrated a positive association between organizational performance of the organizations surveyed and the use of strategic management accounting tools. The study came to the conclusion that implementing strategic management accounting practices is necessary to improve organizational performance of the firm because it discovered a significant difference in decision-making effectiveness between the use of strategic management accounting tools and traditional management accounting techniques. In their 2018 study, Pradhan, Swain, and Dash looked at how different management accounting procedures are adopted and how they affect supply chain efficiency and business profitability. The research design used in the study was a descriptive survey. The study found that the use of a variety of cutting-edge methodologies in management accounting practices has a favorable and significant impact on supply chain activities and corporate performance. The findings also showed that implementing management accounting procedures gives businesses access to strategic information that considerably boosts their competitive edge. In order to investigate the effects of top management support and accountant competency on effective managerial accounting practices and to test the effects of successful managerial accounting practices on decision making effectiveness, Intakhan (2018) studied the managerial accounting practices of SMEs in the ceramics industry. The information was gathered from 107 accounting managers of ceramics SMEs. To find percentage, mean, standard deviation, and inferential statistics using a structural equation model, descriptive statistics were used in the data analysis. The findings demonstrated that SMEs in the ceramics industry adopt the managerial accounting techniques of cost volume profit analysis, cost behavior analysis, cash budgeting, and budgeting for planning and operation control. The results of a casual relationship analysis showed that the most immediate influence on decision making came from effective managerial accounting processes. The study also showed that management involvement directly impacts accounting proficiency. Mustafa and Fehmi (2017) looked at how management accounting methods affect how businesses estimate performance. To ascertain the extent of the use of management accounting tools, a study was carried out on the businesses operating in the Konya Organized Industrial Zone. The study used a descriptive research design. 385 businesses in Konya, O.I.Z. made up the study's population, and 220 of those businesses were chosen as the sample based on a 95% confidence level and a 5% margin of error. In the study, primary data were used. As the research tool, a questionnaire was used to collect the data. Regression analysis was used to examine the hypotheses developed to ascertain the relationships between the variables. With an R-squared value of 45%, the regression analysis showed that the use of management accounting tools and performance assessment has a considerable and favorable impact on business performance. According to the report, managers should use accounting management tools and performance assessment systems more frequently in order to raise their level of performance. Using the Moi Teaching and Referral Hospital in Eldoret as a case study, Bitok (2017) evaluated the impact of management accounting methods on financial performance of an institution. The research used a descriptive survey approach. The 500 employees of the Moi Teaching and Referral Hospital in Eldoret served as the study's target population. The results of a stratified random sampling were used to come up with the study sample size. Structured questionnaires were used to collect the data, which was then analyzed using descriptive and correlational methods. Tables and figures were used to present the results. The study found that costing approaches have the least significant impact on the hospital's financial performance, with strategic analysis, information for decision-making, and performance evaluation having the highest meaningful impact. The study also showed that the use of management accounting procedures has enhanced performance measures like Return on Equity (ROE). The function of management accounting, it was determined, created strategies that allowed the organization to utilize financial innovations in order to forge a long-lasting competitive advantage and decision-making. The management accounting procedures in a changing advanced manufacturing technology (AMT) environment were explored by Egbunike, Egolum, and Agwaramgbo (2015). The study utilized a correlational research design. 26 Nigerian manufacturing companies that were chosen from fact books on the Nigerian Stock Exchange provided the data. A reference analysis utilizing the common least squares approach was used to analyze the collected data. The analysis's findings demonstrated that labor and capital have a weak but considerable impact on output. The low labor-to-capital ratio is a sign that AMT has not yet been implemented in Nigeria. It demonstrated a lack of AMT adoption by Nigerian industrial companies.

METHODOLOGY

Research Design

The author used a descriptive survey research approach to ascertain the association between management accounting methods and corporate performance of chosen manufacturing enterprises in Nigeria. The population of this study was derived from an estimate of the total number of employees employed full-time in the chosen manufacturing enterprises in the senatorial districts of Anambra North, Anambra South, and Anambra Central.

Type of Staff	Acronym	No of Staff
Eastern Distilleries & Food Industries	EFI	109
Ibeto Group of Companies	IBG	130
Intafact Beverages	INB	300
Total	-	539

Table 1 Distribution of the Study Population

Source: Field Survey, 2021

Sample Size and Sampling Technique

Yamane (1964) formula for sample size was used to determine the sample size of the study. The computation is as follows:

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

Where:

n - Sample size

- N Population size
- e The level of precision, sometimes called sampling error, is the range in which the true value of the population is estimated to be.
- 1 Constant

Therefore;

Substituting the values in the formula where e = 8% we have:

Ν = 539 = 0.08 e 9 n = 539 n = $1+539(0.08)^2$ 539 = n 1+539(0.0064) 539 n = 1+3.4496 539 n = 4.4496 121.1344 = n

Approximately, n = 121

The strata samples of the study are determined with the formula:

$n = \frac{number of staff in each company}{total population target} \times study sample$	e size		
Therefore, for EFI, stratum sample size	$=\frac{109}{539} \times 121$	=	25
for IBG, stratum sample size	$=\frac{130}{539} \times 121$	=	29
for INB, stratum sample size	$=\frac{300}{539} \times 121$	=	67

Thus, 25, 29 and 67 questionnaires are distributed to the staff in EFI, IBG and INB respectively for further analysis.

Source of Data

This study deployed primary data that were obtained first hand by the researcher on the field. The primary source of data used in this study was generated mainly with the aid of a structured questionnaire. The researcher collected raw data from questionnaires administered to 121 staff of the study sample. The questionnaire was specifically designed into two parts, section A and B. Section A comprises of respondents' personal data and Section B comprises of the research in detail.

Method of Data Analysis

The analysis of data was obtained using descriptive statistics such as percentage analysis, mean, standard deviation and frequency distribution tables to measure the demographic characteristics of the respondents. Where necessary, the specific objectives of the research work would be analyzed through the responses from the respondents using a five (5) point scale (Likert Scale) which are: Strongly Agree SA 5, Agree A 4, Undecided U 3, Disagree D 2, and Strongly Disagree SD 1

(5+4+3+2+1)/5

 $\frac{15}{5} = 3.0$

Decision Rule: Accept the specific objectives with the calculated value which is greater than or equal to 3.0 and reject any objective with a calculated value less than 3.0.

The percentage of each response was obtained using the formula:

Percentage Response = $\frac{X}{V} \times \frac{100}{1}$

Where X = Number of respondents

 $\mathbf{Y} = \mathbf{Total}$ number of respondents

Method of Data Analysis

In addition to the analyses of the descriptive statistics carried out in the study, the research hypotheses that were formulated were tested using Spearman Ranked Order Correlation Coefficient with the aid of Statistical Package for Social Sciences (SPSS) V. 22.

Decision:

The null hypothesis is accepted if the *p*-value of the test is greater than 0.05 while the alternate hypothesis is rejected. Otherwise, the alternate hypothesis is accepted while the null hypothesis is rejected.

DATA ANALYSIS

Response Rate of the Questionnaire

Out of the 121 issued questionnaires, 113 questionnaires representing 93.39% of the total questionnaires distributed were returned fully completed; 5 (4.13%) questionnaires were wrongly filled; while 3 questionnaires were not returned representing 2.48% of the total questions distributed to the respondents. The study was, however, continued since a response rate of at least 70% was obtained and is fit for inferential analysis.

Table 2: Presentation of Mean Scores for the Variables: Activity-Based Costing

S/N	Statements About the Research Variable	SA	A	N	D	SD	Mean
A1	Our firm uses Activity-Based Costing (ABC) to identify the cost of each activity in the firm	51	49	0	13	0	4.22
A2	Effective cost control is carried out in our firm using ABC by improving the efficiency of the activities that relate to the products	21	64	0	28	0	3.69
A3	The cost of each activity in our firm is often assigned with resources to all products and services according to the actual consumption by each activity	25	29	2	57	0	3.19
A4	Activity-based costing method enhances the authenticity of cost information in our firm	113	0	0	0	0	5.00

Source: Survey Findings, March 2021

Table 2 above presents the mean scores of the construct that measured Activity-Based Costing. According to the table, more number of the respondents agreed to all the statements as shown by the mean scores of the responses. More particularly, the mean score of Item A4 revealed that all the respondents are of the opinion that Activity-Based Costing enhances the authenticity of cost information in their firms.

Table 3: Presentation of Mean Scores for the Variable: Corporate Performance

S/N	Statements About the Research Variable	SA	Α	Ν	D	SD	Mean
C1	Our firm always uses assets from its primary mode of business in generating more revenues over time	113	0	0	0	0	5.00
C2	Management accounting practices motivate behaviors that support the cultural values that are necessary to the achievement of firm's strategic financial objectives	33	47	0	33	0	3.71
C3	The financial objective of our firm has always been achieved through increased sales and reduced cost of production		77	0	14	0	3.95
C4	Managers in our firm direct and control the firm's operations in such a way that enhances the value and performance of the firm	26	35	3	49	0	3.34

Source: Survey Findings, March 2021

Table 3 above presents the mean scores of the construct that measured Corporate Performance. According to the table, all the statements that were made to measure Corporate Performance were accepted, on average since the mean scores are each greater than 3.0 which is the minimum benchmark.

Test of Hypothesis

Test of Hypothesis I

For the test of the first hypothesis, the under-stated null hypothesis is deployed:

Ho1: Activity based costing does not significantly affect the corporate performance of manufacturing companies in Nigeria.

The test of the hypothesis has the following outputs.

Table 4: Correlation Result for Hypothesis I

			Activity-Based Costing	Corporate Performance
		Correlation Coefficient	1.000	.253**
	Activity-Based Costing	Sig. (2-tailed)		.007
~		Ν	113	113
Spearman's rho		Correlation Coefficient	.253**	1.000
	Corporate Performance	Sig. (2-tailed)	.007	
		Ν	113	113

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Survey Findings, 2021

Interpretation of Result

The result shown in table 4 above is the result of the test that determines if activity based costing significantly affects the corporate performance of firms. The positive coefficient of correlation, rho = 0.253, reveals that there is a weak significant association between activity based costing and corporate performance. The coefficient of determination, rho² = 0.064, indicates that about 6.4% variations in corporate performance can be significantly explained by changes in activity based costing. Furthermore, Table 4 shows the *p*-value of the analysis which was used to test the statistical significance of the correlation. The *p*-value of 0.007 indicates that there is evidence that a statistical association exists between activity based costing and corporate performance of manufacturing firms.

Decision

Since the p-value of the test is less than 0.05, the null hypothesis was rejected while the alternative hypothesis was accepted in line with the decision rule. Consequent upon that, the researcher concludes that activity based costing significantly affects the corporate performance of manufacturing companies in Nigeria (rho = 0.253, p-value < 0.05).

Discussion of Findings

The study covers the effect of management accounting practices on the corporate performance of selected manufacturing companies in Nigeria. the study showed that activity based costing was revealed to have a positive and significant effect on the corporate performance of manufacturing companies in Nigeria. The rho-statistic indicated that when firms increase their activity based costing intensity, there will be about 25.3% increase in the chances that the corporate performance of the firm will be improved (rho = 0.253, p-value < 0.05). To further support this position statistically, the rho² value of 0.064 indicates that about 6.4% variations in corporate performance can be explained by movement in activity based costing. That is to say that there is a statistical evidence that supports the assumption that a better activity based costing method implies that there will be an improvement in the corporate performance of the firm. Put in other words, firms that engage in sound activity based costing practice are likely to increase the rate of their financial success.

The findings of this study are consistent with age-longed conviction that management accounting practices facilitate better decision making process that ultimately improve the financial outcomes of the firm. More so, the findings of the study are in agreement with the findings of Ayaundu and Ogoun (2020); Alabdullah (2019); Consolata (2019); Austin and Ejike (2019); Wijeywardena and Zoysa (2019) and Egbunike and Emiaso (2018). Finally, the findings of this study supported the hypotheses of the contingency theory of management accounting, which holds that whether management accounting information practices satisfy the unique information requirements of the organization determines whether the firm will perform at its best. This is due to the fact that management accounting procedures that adhere to specific firm requirements are more likely to produce pertinent management accounting data that will be used in the planning and management of the company's financial resources, which frequently results in an improvement in the firm's overall performance.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Corporate managers have been compelled to develop business techniques and plans that would direct an organization toward the maximizing of profits due to the competitive nature of today's business environment. Sales growth and lower production costs are two ways to accomplish this company goal. An organization may be able to gain a competitive edge in its industry by maximizing earnings and minimizing costs. It should be sufficient to mention that management accounting principles are applied to such organizational difficulties. Practices in strategic management accounting can, for instance, be used to persuade a huge client base to develop an enduring preference for a company's goods.

The financial performance implications of management accounting practice are that because they give the company a considerable competitive edge, they help it survive the dynamic and competitive business environment, better guiding managerial action and motivating favorable managing behavior. With such progress being made on the ground, MAPs tend to enhance corporate performance by encouraging actions that foster and uphold the cultural values essential to the accomplishment of the company's strategic goals, both financial and non-financial. Additionally, management accounting practices have a direct impact on the corporate performance of businesses because they give managers the statistical and financial information they need for the day-to-day operations of the company through management records and details, which are a byproduct of MAPs.

Recommendation

According to the study's findings, managers of manufacturing companies should develop a practical approach that can be used to identify organizational activities and assign resources to each activity's cost in accordance with each group's actual consumption of the products and services.

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