



## ECONOMIC VALUE ADDED, CASH VALUE ADDED AND FINANCIAL PERFORMANCE

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**ABSTRACT:** The study examined the synergetic effects of economic value added (EVA) and cash value added (CVA) on financial performance of selected listed manufacturing companies in Nigeria between 2008 and 2022. The objective was to establish effects of economic value added and cash value added on the financial performance. The *ex-post facto* research design was adopted to carry out the research work. Secondary data were gathered from the annual reports of purposefully selected fifteen (15) listed companies on the Nigerian Exchange Group for the study and analytically estimated using the general multiple regression model involving ordinary least square with the aid of E-view 13.0 econometric software. It was revealed that economic value added has a negative but significant effect on return on assets while cash value added was statistically non-significant. The study revealed that value-based accounting measures are key financial performance indices that should be employed to ensure transparency and financial accountability in the Nigerian manufacturing companies.

**Keywords:** Economic value added, cash value added, return on asset, value based measures.

### INTRODUCTION

As investors request for better returns on investments, there are increasing pressures on managers to measure, manage and report constantly the shareholders' value created by the activities of the company (Sharma and Grover, 2015). Recent economic developments have also put pressure on full disclosures of transactions in the financial statement of firms as stated in International Accounting Standard 1 (IAS 1). Expectations of shareholders, however, have gone beyond ordinary returns on the capital invested but now hinged on a fair return that is commensurate and compensates for the risk they are taking hence, the need to maximize shareholders' value. Shareholders' value represents the value that is created by a company in a market that is regulated effectively over the initial value of investments of shareholders hence, the higher the shareholders' value the better it is for all the stakeholders of the company (Dobbs, 2005; Hartomo, 2014). Creating shareholders' value, therefore, becomes a task that invariably emanates different financial measures

that can be used as gauges to identify value-creating performance of a company.

The most frequently used gauge for shareholders' wealth creation has been total returns to shareholders but this method was faulted by some scholars such as Grant (2003) who claimed that the financial wellness of a company cannot be measured by total returns since it does not take into cognizance the required rate of returns, that is, "the cost of capital" that is associated with the underlying risk of the business and the level of debt involvement of the company. Grant (2003), however, stated that assessing the performance of the management of companies over time can be measured by value-based measures (VBM) in a period since shareholders' value creation and reporting is gradually becoming the new normal for organizational performance. Therefore, knowing the financial situation of a firm has become necessary for investors to take decisions on their investment activities at every point in time. Detailed accounting information is, however, needed to

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know if companies are making profit or not (Bingilar and Oyadenghuan, 2014).

The ability of conventional accounting measurements (CAM) was put to question by many scholars claiming that the information needs of shareholders and other stakeholders are different from each other for which the financial statement may not be able to adequately give answers. These financial measuring tools for CAM include earnings or earnings growth, earning per share (EPS), returns on assets (ROA), returns on equity (ROE) and they are used to reveal the financial strengths, weaknesses, opportunities and threats of companies. Others include returns on investment (ROI), residual income (RI), returns on capital employed (ROCE), dividend yield, price-earnings ratio, growth in sales, market capitalization and so on (Brief and Lawson, 1992).

Corporate performance measures such as Economic Value Added (EVA) was introduced by Stern Stewart Management Services in the year 1991 and Shareholder Value Added (SVA) by Rappaport and LEK/Alcar Consulting Group (Rappaport, 1998) to reduce the unsavory effects of determining performances of companies using traditional approaches. Boston Consulting Group (BCG) and the Swedes Ottoson and Weissenrieder (Ottoson and Weissenrieder, 1996; Madden, 1999; Barker, 2001) introduced the Market Value added (MVA) and Cash Value Added (CVA) also. These modern based metrics were claimed to be superior to traditional accounting measures that have been in use because they seek to eliminate financial and accounting misrepresentations and also give a true measure of a company's accomplishment when driving shareholder's value.

Recent developments and the increasing need for financial information to measure the financial performances of companies as required by shareholders to take necessary economic decisions have been one of the prevailing issues under scrutiny. Financial performance, therefore, shows the picture of the financial ability of a company to attain financial objectives and reveals the situation of the managerial ability of company's management to the public through the profit made. It is the business performance information that discloses the profitability necessary to assess probable changes in economic resources of the

organization as may be under its control in the future (Anthony & Gouvindarajan, 2007; Harahap, 2003). Financial performance has been variously proxy by return on assets (ROA) by many scholars who claimed that its calculation includes the total assets employed to generate the profit (Fahmi, 2017).

Manufacturing companies in Nigeria seek to create value for their shareholders by ensuring higher profits and declaring huge dividend to shareholders. The nexus between shareholders' measures that can be annexed to evaluate the true economic profit on which shareholders' values are anchored has become an area of interest to managers, other users of financial statements and most especially the shareholders to analyze the financial data as presented to them.

Yearning for shareholders' value creation became more pronounced during the world economic turbulence that characterized global market attributes between 2006 and 2008 which ultimately changed investors' notions and perceptions about shareholders' value creation (Hall, 2016). There was a general economic meltdown at this period, stock prices collapsed, loss of employment was at the peak, meeting financial obligations by companies became hectic and there was virtually loss of investments. For these reasons, weak companies were either distressed, acquired by strong ones, merged or go into liquidation. Critical and careful assessments of the financial performance of companies therefore became the practice among shareholders to know which of the companies is vibrant into which they can put their resources. It, therefore, became necessary that potential and existing investors should have good knowledge of the performance of the companies of their choices, analyzing them through reliable measuring accounting ratios to know either they are creating values for their shareholders or destroying it. Managers have been variously employing conventional accounting measures (CAM) techniques such as returns on investments (ROI), returns on capital employed (ROCE), earning per share (EPS), returns on assets (ROA), returns on equity (ROE), dividend per share (DPS) and to mention a few to determine financial performances of companies but these techniques face serial criticism for not considering all the intrinsic costs that were engaged to generate profits for the company (Stewart, 1994). Modern



value based techniques such as EVA and CVA were conceived to take care of the cost of capital that has been identified by some scholars as flaws in traditional accounting-based measurements (Sandoval, 2011; Rappaport, 1998). This research, therefore, seeks to know the effect of EVA and CVA on return on assets (ROA) which was proxy for financial performance of manufacturing companies in Nigeria if they are adopted in place of traditional measures.

## **LITERATURE REVIEW/THEORETICAL UNDERPINNING**

### **Shareholders' Value Creation**

Shareholders' value creation has been one of the most challenging financial issues bothering organizations and investors (Cremers and Sepe, 2016). Companies announce their consistent commitments to increasing long-term value for their shareholders, whereas different accounting measures have been used previously to determine shareholders' values. Kapoor et al (2010) explained that shareholders' value is the summation of all strategic decisions to enhance earnings, dividend and market value of the company. Shareholders' values can either be created or destroyed depending on the activities of the managers of the company. Knight (1998) consistent with Kapoor et al (2010) explained that performance measurement systems were designed to ensure accountability, make managers be in tune with budgets and to capture accurately the organization's strategy to grow their EPS and to report on shareholders' value succinctly.

### **Economic Value Added**

Economic Value Added (EVA) as explained by Haddad, (2012) is the economic profit that is added as an increase to shareholders' wealth. He was also of the opinion that it is an estimation of a firm's financially viable profit resulting from the surplus of returns on capital invested over the cost of debt and capital used for the financing. EVA invariably considers the entire cost of capital along with the cost of equity. De Villier, (1997) expatiates on the several adjustments that are needed on the operating profits by companies to arrive at the EVA. He noted that EVA is the worth created above the returns expected by the companies' investors.

Gitman (2012) and Almeida et al (2016) in their reactions explained EVA to be a measure that was used to determine

the actual rate at which investments contribute to the wealth of its owners having considered the cost of capital intrinsic in the business. Harrison and Wicks (2012) also in their opinion suggested that EVA determines the real economic profits of a company. It looks beyond the nominal economic profit of the company putting into consideration the cost of capital and debt to show the true position of the profit of the company and invariably the shareholders' wealth.

The concept of EVA is basically on the need for successful companies to at least earn profits that will cater for the cost of capital. This signifies a return that is higher than the cost of financing the capital that is engaged to generate benefits to shareholders. Though EVA is found as a complex model of measurement by many of its critics (Kumar and Sharma (2011); Kim (2006) and Chen & Dodd (1997)) believe that its unique selling point is its ability to consider the economic capital and economic profits in resonance to the shareholders' wealth created during a particular period.

Calculating EVA, therefore, involves adjusting primarily the capital charge on the reported profit by subtracting it from the net operating profit after tax (NOPAT) while the capital charge is arrived at by multiplying the equity and debt with the weighted average cost of capital (WACC) deployed to providing it (Young & O'Byrne, 2001). Thereafter, other adjustments needed are to be followed to bring the reported figures to economic profit that is expected to reveal a better shareholders' wealth position at every point in time. These adjustments are expected to give EVA figure that will nearly reveal cash flows, removes the arbitrary distinctiveness between capitalized tangible assets and intangible assets to be written off and also correct the biases that are caused by non-cash flow accounting entries such as depreciation, research and developments, amortization of goodwill, provision for bad debts and deferred taxes.

### **Components of Economic Value Added**

EVA approaches its evaluation of determining the definite economic profit by using the following basic elements:

#### **Net Operating Profit After Tax (NOPAT)**

Net operating profit after tax (NOPAT) can be derivable from the after tax financial operations of a company although it should be before the cost of financing the capital and other entries that are non-cash-book related



(Ross *et al.*, 2010). One of the very important items for the computation of EVA is the adjusted accounting profit, popularly known as NOPAT. Stewart (1994) suggested the need for series of adjustments of more than 150 entries to make accounting profit a good reflection of the market. Analyzing NOPAT sheds more light on the operating efficiency of the firm without it being affected by the capital structure. NOPAT, therefore, focuses on the operating efficiency of the firm. From the income statement, earnings before interest and tax (EBIT) can be determined by deducting cost of sales, administrative, selling and other expenses from the sales made for the period. Thereafter, deduct tax from the EBIT to obtain NOPAT. The EVA is, however, arrived at by removing the cost of capital from NOPAT.

#### **Capital Invested**

The invested capital (IC) stands for the firm's investment through the given period including any changes in the working capital. IC is the commitment of shareholders in form of money contributed to a company in terms of the amount of money that is put into the business. It can also be described as the amount of invested money upon which management has to make returns to shareholders. There are means to calculate the IC but the most popularly used includes the operating approach. This approach involved deducting all the current liabilities that do not bear interest from the total assets of the company. This suggests that fixed assets, investments, cash and working capital are added to arrive at the IC. Other methods for calculating the IC as suggested by Roztocki and Needy (1999) involved summing up all the financial sources through which the organization is funded. This may include the owners' equity, short-term debt and long-term debt. IC is, therefore, the funds injected into a business by its shareholders, bondholders and lenders including non-cash assets that shareholders contribute. A business must ensure that the returns from its investment are more than the cost of financing it or else, there is the destruction of the capital invested.

#### **Cost of Capital**

Business raises funds from different sources which attract varying costs. The cost involved when equity is raised is different from the cost involved when either debt or preference shares are raised. The cost to raise capital that

is injected into the business is termed the cost of capital. It includes averaging the amount expended to issue both ordinary and preference shares. In the real sense, many businesses do not know how to recognize their true cost of capital, this indicates that they either not knowing the true profitability status of the business whether the business is adding value or not or they overestimate the profit. Capital injected into a business can, however, be in form of borrowed capital or equity capital. The borrowed capital is put into cognizance through the interest rates that are charged by lenders on the fund. This is the cost of debt that is captured in financial statements. Whereas, the equity capital as provided by shareholders is not considered as it is done for cost of debts in the financial statement.

An investor expects growth on his investments in form of return which is expected to be equal to the risk-free rate in addition to the assumed market price of the risk for the venture (Pandey, 2005). Return on investment is expected to outweigh the cost of capital, when this is invoked, there is creation of value for shareholders. Value is destroyed, however, when the cost of capital outweighs returns on investment (Damiebi, 2019). Cost of capital can therefore be at least, the rate at which the business will breakeven. Therefore, the rate of return of the business should be enough to cater for the cost of capital injected into the business (Damiebi, 2019; Omuemu and Olowe, 2020; and Adetifa, 2005).

#### **Weighted Average Cost of Capital**

The relationship among the variables involved in the components of EVA was established through Stern Stewart & Co (1991) who gave the basic formula to determine EVA as follows:

$$\text{EVA} = \text{NOPAT} - (\text{WACC} * \text{Capital Invested})$$

(i)

It explains that there are more than 150 adjustments that should be required to transform accounting profits to economic profit, however, adjustments such as research and development, goodwill, operating lease, deferred taxes and bad debts and so on are mostly concentrated upon by companies. Calculating the cost of capital generally proves difficult since determining it requires knowing its relationships with equity and debt that are involved in the company's financing mathematically. The worth of a company involves equity and debts which attract rates at



which investors are expecting returns on the amount they invest. The cost of equity is the rate at which equity holders expect proceeds on what they invest. Potential investors determine whether they will have a stake in the company or not through the prevailing cost of equity of the company. The minimum acceptable equity rates of a company is a major determining factor upon which potential shareholders base their decisions of whether to keep their holdings, dispose of them or buy more. The cost of loan capital, however, in essence, is the charges of interest on the loan capital redeemable at a particular future date alongside the loan capital itself. Weighted Average Cost of Capital (WACC), therefore, includes the sum of the rate of costs on equity and loan capital in generating the entire capital used in generating returns for the organization. It is, however, expressed as shown in the formula below:

$$WACC = \{K_e * E/(E+D)\} + \{K_d (1-t)(D/E+D)\}$$

(ii)

$$WACC = \{D/V * \text{Cost of Debt}\} + \{E/V * \text{Cost of Equity}\}$$

Where D = Average debt;

E = Average equity;

V = D + E (Total Value of Firm).

#### **Cash Value Added (CVA)**

The CVA is one of the value-based metrics and was initiated by Boston Consulting Group contrary to EVA which uses an estimation of the generated economic profit from the operating activities of the business (Tamar and Ketevan, 2014). As an alternative to using economic profit numbers, CVA calculates the amount at which the generated cash flows exceed the capital cost putting into consideration all the advantages of EVA and at the same time trying to advance on it by using operating cash flows as a substitute for the figure of profit used by EVA.

Many fundamental metrics have been advanced to analyze the financial performance of companies. These include the cash value added (CVA) which serves as an internal measure developed by Boston Consulting Group. It is the measure that shows the residual cash flow that generates investment in the company. CVA, therefore, shows the wealth created in a fiscal time through the application of the capital supplied by shareholders and debt from lenders. It takes cognizance of the application of the cash flow paid as interest to lenders, salaries paid to employees and dividend paid to shareholders (Norouh and Heidari, 2004).

Also incorporated in the cash application are taxes that accrued to the government and the money left over for the activities of the company. Supporting this concept was also revealed in the opinion of Hejazi and Oskouei (2019) who explained that CVA includes cash items. It is thus, considered as cash operating profit after tax minus the cash cost of capital. It expresses the residual income in the form of cash. Therefore, the investment growth produces value when the profitability measured exceeds the weighted average cost of capital. This illustrates that financial profitability is a by-product of cash value added through the activities of the company.

#### **Financial Performance**

Financial performance is the level of performance of a firm over a specified period of time, expressed in terms of overall profit or losses during that time (Tian and Zeitun, 2007). It is an act of measuring the results of a firm's policies and operation in monetary terms. These results are reflected in the firm's return on investment, return on assets and value added (Abor and Biekpe, 2015). Over time, financial performance has been perceived only from the perspective of profits or losses made. The concept of performance, having different meanings, depends on the user's perspective of the available financial information. These measurements include the return-on-assets (ROA), return-on-investment (ROI), residual income (RI), earning per share (EPS), dividend yield, price earnings ratio, growth in sales, market capitalization and so on (Brief and Lawson, 1992).

#### **Return on Assets (ROA)**

A study conducted by Isik & Soykan (2013) revealed the influence of ROA on the shares' performance of companies. ROA was seen as an indicator that revealed the profit generation of the company vis-à-vis the total assets used to generate it. Though there are mixed reactions as to the relationships that may exist between shareholders' value and ROA in the long term, shareholders, however, generally concerned themselves with the ratio to analyze the level of returns they expect on their assets which in their view is a mean to measure company performance and share prices (Blaylock et al, 2012). It measures how efficiently the assets of a company are utilized to generate profits for the company. A higher ROA would mean higher patronage. Hence, it is an internal factor that could be



utilized to measure the effectiveness of assets' engagements in the company to generate profits.

#### **EMPIRICAL REVIEWS**

Thenmozhi, (2000) in his research titled market value-added and share price behaviour empirically compared traditional performance measures with EVA to know how they affect or influence shareholders' value of BSE Sensex companies in India. Data were obtained from 27 companies that were scientifically selected in Bombay (Bombay Stock Exchange) between 1997 and 1999. Using Pearson coefficient of correlation and stepwise regression analysis to check if there existed any relationship between share price and MVA, MVAPS (market value added per share), EPS, ROCE and RONW, it was deduced that EVA as a percentage of capital employed (EVA/CE) was positive to predict shareholders' value. The study showed that six (6) out of the twenty-eight (28) companies in the study have positive EVAs. Meanwhile, others were found to be negative. When EVA and other conventional performance metrics such as RONW, ROCE and EPS were compared for the period under consideration, it was also discovered that traditional metrics only added colour to the real value of shareholders but EVA gave it its true picture. Sparling & Turvey (2003) observed the extent of the connection that may exist between shareholders' value and EVA. It also examined to know the potency of EVA as valuation tool by analyzing data that were gathered from the database of Stewarts' Fortune that showed shareholders' returns for a-3-year, 5-year and 10-year period and also the changes in their mean percentages. Correlation coefficient was deployed to test the relationships between them for the periods indicated. The study found that there were very weak correlations linking the two variables through all the periods under consideration. Hence, EVA cannot be considered to be best measure for stock market performance. This implies the need to further consider conventional accounting metrics for measuring shareholders value.

Urbanczyk et al (2006) investigated the use of CVA and EVA as contemporary performance metrics over traditional accounting metrics to measure the financial performance of private and publicly traded firms in Poland between 1997 and 2002. Using a simple statistical model on the data gathered it was discovered that CVA and EVA

were better alternative measures for the corporate performance of firms than conventional accounting measures. The study, nevertheless, suggested that although Polish firms were reportedly making accounting profits, they were not creating values for shareholders. The study, therefore, recommended that CVA and EVA be adopted to appraise the financial activities of companies in transitional economies. This implies the need for the adoption of better metrics that can reveal the true financial performance of companies so that investors risk on their investments will be abated.

Palliam (2006) in the study he embarked on to know "further evidence of the information content of economic value added (EVA)" in predicting returns on stock, selected randomly 33 non-EVA companies and 75 companies that used EVA for their evaluation to analyze and draw a conclusion. He collated data on many metrics which include the market value, equity of stockholders, revenues, ROI, operating profits and EPS. Using regression analysis, he established that despite the acceptance of EVA as a modern accounting metric, its acclaimed advantage over other conventional accounting metrics could not be confirmed. This, therefore, raised suspicion about the perceived competence of EVA as a better metric over EPS, ROCE and other metrics. Jettisoning conventional accounting metrics as proposed by Stewart (1994) will amount to holding vital information that investors can deploy in taking decisions on their investments.

Ahmad (2006) researched on the seminar work titled "Is economic value added (EVA) more associated with stock returns than accounting earnings? the UK evidence". The research considered residual income (RI), cash flow from operation (OCF), net income (NI), EVA and NOPAT representing both modern and traditional performance measurements for investment decisions. Data were gathered from 500 firms for a period of 1990 to 1997 with 2,252 observations from the selected firms and were analyzed using panel data regression analysis as claimed by Stewart to explain stock returns for a period of 1990 to 1997. It was found that NI and NOPAT performed better than RI and EVA to explain stock returns. Meanwhile, the accruals and OCF were seen to have higher considerable incremental information content than EVA to explain stock



returns. The paper concluded that other variables of performance measurements should be considered to capture unexplained variations in stock returns. The study, therefore, shows the complementary effects of both values-based and conventional performance metrics in determining stock returns.

Wibowo & Berasategui (2008) researched to study the correlation that existed between EVA and MVA with reported earnings. The researchers engaged 40 companies that were listed on the Indonesian Stock Exchange for four (4) years between 2004 and 2007 to find the relationship that existed amongst the variables used in the research. Using regression analysis to test the hypothesis, it was found that the MVA has a more significant effect when reporting earnings than the EVA. This implies that the significance of MVA and also subjugate the assertion of many authors (Fayed & Dubey, 2016 and Awan et al, 2014) about the superiority of EVA over other performing metrics with regards to reported earnings.

Kosalathevi, (2013) evaluated “the impact of EVA on financial performance of selected private banks in Sri Lanka” using the correlation and regression analytical models with the aim of measuring financial performance by the instrumentation of EVA. Secondary data on the selected banks were gathered from their available respective annual reports to know the relationship that might exist between EVA and financial performance. He discovered that the relationship that existed between EVA and ROE was considerable and positive. This shows that preserving shareholders’ value requires innovation other than the conventional accounting metrics that companies have been using as the measuring tools to determine the financial performance of the company.

Oduro (2013) empirically analyzed shareholders’ EVA of selected listed banks in Ghana between 2006 and 2010 to substantiate its supremacy over conventional accounting ratios which comprised of EPS, ROA and ROE. The effects of these independent variables were assessed on share prices (SP) and MVA of the selected firms. Secondary data were gathered from the Ghana Stock Exchange (GSE) on the eight (8) selected listed banks for the study. The data analysed were for a-five-year period (5) spanning from 2006 to 2010. Employed for the analysis of the data that were gathered for the study was the panel

regression technique generalized least square (GLS) model. The analysis revealed that there existed a positive and significant relationship between the variation in EVA and the variation in both share price (SP) and MVA better than reported earnings. ROE, however, showed a significant relationship with MVA while EVA explained better the variation in SP. The study, therefore, recommended that listed banks should engage EVA and MVA as performance metrics to measure value created from shareholders’ investments. This indicates the need for the encompassed financial performance measures to help investors take charge of their investment decisions.

Khaddafi & Heikal (2014) analysed the financial performance of 12 industrial consumption businesses that were on the list of Indonesia Stock Exchange from 2010 to 2012 using EVA as the measuring tool. The analysis was done by using a simple statistical tool on the data that were collated. The result divulged that positive EVA is an indication that the intrinsic cost of capital is lower than the operating profit after tax. It was concluded that positive EVA is a positive financial performance as shown in Ades Water Indonesia Tbk which has a positive EVA result. The study recommended that companies should improve their financial performance by generating profits and minimizing costs and they should also prepare the financial statements using EVA analysis so that investors can determine the performance level of companies for them to take decisions on their investments.

Oyadonghan et al (2017) digressed a bit from accounting metrics into reviewing investment options contribution and their relative effects on shareholders’ wealth maximization to create the awareness that will help investors to make investment decisions on their financial assets at every point in time. The study focused on the need to provide the platform through which investors can be aware of how to measure their portfolios and take decisive decisions on their investments through their analysis. Data were collected from 20 registered firms on the Nigerian Stock Exchange for a-five-year period and through the administration of questionnaires which was evaluated with the statistical package for social sciences (SPSS). The study employed descriptive analysis, ordinary least square, correlation coefficient and Durbin- Watson for the analysis. The result showed a strong positive correlation



between knowledge of financial measuring tools and shareholders' wealth maximization. It, therefore, recommended that the knowledge of financial tools such as portfolio theory, ROA, ROCE, EVA, MVA, CVA, SVA, CFROI and so on, will be essential to increase shareholders' wealth. Having the investment knowledge will help investors in the choice of portfolios they may want to combine that will increase their wealth. It was revealed through the research that having investment knowledge through performance metrics contributes concisely to maximizing shareholders' wealth.

One of the modern valuation methods was considered in the research carried out by Hejazi & Oskouei (2019) on the extent of the information content of CVA and price/earnings ratio (P/E ratio) to explain returns on stock of quoted industrial companies in Tehran. While the study aimed at knowing if any relationship existed between CVA, P/E ratio and returns on stock, it also sought to provide evidence as to which of them provided value relevance on returns on stock. 85 quoted companies on the Tehran Stock Exchange between 1999 and 2013 were considered in the evaluation while the data gathered were analyzed using regression (random effect model) and correlation coefficient. It was discovered that, though both CVA and P/E ratios explain the content level of information on shareholders' returns, the CVA gave larger comparative information content than the P/E ratio. The correlation analysis between CVA and P/E ratio in explaining stock returns also indicated that CVA has greater power to explain stock returns. The research concluded that CVA was more related with stock returns than the P/E ratio information content-wise.

Yudina & Daryanto (2019) in their research to know the best competitive company among poultry integrated companies in Indonesia between 2013 and 2017 analysed their financial performance through value-based measurement. Four companies were considered in the research work to assess their financial performance with the aid of EVA, MVA and CVA in order to help investors choose the best company to invest in among the companies. Using simple statistical analysis on the data gathered from the four companies for the study, EVA was found to be a very useful tool that should influence the decision of investors. Whereas, companies that generate

positive CVA every year during these periods were recommended as healthy financially and good to invest in. This indicates the need for better performance metrics that will bring every cost that is required to generate profits as declared by the companies so that investors will be able to ascertain the financial stand of the companies they want to invest in.

Information content of CVA with price earnings ratio (P/E) concerning returns on stock of industrial companies that were quoted on the Exchange of Tehran were examined by Hejazi and Oskouei (2019). The financial performances of eighty-five (85) industries were evaluated between 1999 and 2003 to inspect the variables as they affect returns on stock. Pooled time-series data were collated and considered to observe the information content of CVA and the P/E ratio. It was revealed that the result linked the information content of CVA more closely with return on stock than when P/E ratio was considered. The study concluded that CVA has better information content to explain returns on stock than the P/E ratio. This point to the fact that information on shareholders' value created can better be determined using value-based measurement than using conventional accounting based measures.

Evaluation of the financial performance of the public organization in China between 2009 and 2010 was carried out by Subedi and Farazmand (2020) using EVA as the performance metric. The study empirically aimed at knowing if the acceptance of EVA as a novel performance metric would lead to the general improvement of a firm's performance. Using the Pearson correlation coefficient and regression analysis on the 3374 firm-year observations, it was observed that EVA's adoption positively and significantly affected a firm's performance. Meanwhile, using firm fixed effects regression, it was discovered that firms that adopted EVA as a performance metric have improved financial performance. It was concluded that the acceptance of EVA made managers to make more prudent investments and operating assessments than when it was not adopted. So far, the overall objective of an organization is to increase the overall efficiency of its enterprises. This confirms the pivotal role that performance metrics plays in revealing the financial wellness of any organization be it the private or public sector of the economy.

#### **Theoretical Framework**



### Shareholders Theory

The theory focused on shareholders' wealth maximization as the purpose for which firms are established. Though shareholders' theory was traceable to Adams Smith (1776) as revealed in the work of Bagha (2015) who argued that every person that rationally acts in his self-interest maximizes efficiency and value for the society, it is invoked and fresh to determine shareholders' wealth creation in this century. The theory assumed that the priority of managers is to ensure that corporate assets are used to generate two measurable metrics for shareholders which are dividend payments and share price appreciation. It was strongly argued for by Nobel Laureate Milton Friedman (1970) that the only social responsibility of companies is to use their resources actively to improve and sustainable profitability in the long run and ensure that they do this within the ambit of rules of the game, that is, openness in participation which involves in free competitions without dishonesty or fraud (Friedman, 1970). It is believed that every attitude within the ambit of the law governing the activities of the firm without fraud and dishonesty would benefit shareholders and the entire society.

The perspective through which this study is viewed shows that firms are owned by and run for the benefit of shareholders are expected to have considered both the costs of debt and equity before arriving at the reported economic profit. Putting into consideration the weighted average cost of capital (WACC) to arrive at the reported profit and considering other factors will help managers to report the true shareholders' profit maximized. WACC includes the sum of the rate of costs of equity and loan capital deployed to generate the entire capital used to create the shareholders' wealth. Managers, therefore, are to ensure maximization of shareholders' interest legally and ethically. The theory, therefore, becomes relevant to this study for its usefulness to evaluate shareholders' wealth creation which could eventually spring up the interest of investors either to invest more in the company or not. Brandt and Georgiou (2016) believe that the theory points to the single moral or social obligations of business entities to maximize shareholders' profit. Then, it hangs on the responsibilities of executives to create values for shareholders by ensuring that profits are made and socio-

economic advancements are significant (Castelo, 2013). Though, there are debates to undermine its significance, Magill et al (2013) explained its relevance based on its proposition to ensure maximal shareholders' value creation.

### Decision Usefulness Theory

Adequate information is essential to allow investors take adequate actions on both their existing and prospective investments. Decision usefulness theory was propounded by Staubus (1999) to resolve the asymmetrical information such as are in the financial reports of an organization for the use of investors and other stakeholders for investment decision making. Deegan and Unerman (2011) as well as Eliwa (2015) argued that the theory assigns information usefulness depending on the requirements of users to make individual decision making by every stakeholder group including shareholders. Accounting information as a propellant to decision usefulness theory was adopted by accounting conceptual frameworks (2010) to provide useful information to its users through its relevance, faithful representation and ability for comparison. The characteristics also include verifiability, timeliness and understandability. The theory became appropriate in this study for its ability to give useful financial information that could be used by investors and analysts to decide on the worth of a firm which invariably measures shareholders' wealth.

### METHODOLOGY

The financial data of fifteen (15) manufacturing companies whose financial years end on 31<sup>st</sup> December every year and their financial data were up-to-date were accessed. *Ex-post facto* research design was adopted to carry out the study. Secondary data were extracted from the financial statements of the sampled companies.

### Dependent Variables

This study substituted financial performance with return on assets (ROA). ROA was seen as an indicator that revealed the profit generation of the company vis-à-vis the total assets used to generate it.

### Independent Variables

The study proxy independent variables with economic value added (EVA) and cash value added (CVA).

### Area of Study



This study covered the analysis of the effect of shareholders' value creation on the financial performance of listed manufacturing companies in Nigeria. Data were gathered purposively from selected listed manufacturing companies in Nigeria for a period of fifteen years from 2008 to 2022. Little attention was given to shareholders' value creation before the introduction of the National Economic Empowerment Development Strategy (NEEDS) in 2004 with the proviso that private sectors especially the manufacturing sector would drive the economic growth of Nigeria (United Nations Conference on Trade and Development (UNCTAD, 2009). With the reported growth in foreign direct investment (FDI) traceable to the implementation of NEEDS, it is expected that its effect should be seen in the performance of manufacturing companies within a time frame hence, the need to adopt 2008 as the base year for the study.

#### Model Specification

To estimate the regression equation, the study adopted the panel data regression model in line with the specific objectives variables of the study. Thus; shareholders' value creation measures were functions of economic value added (EVA) and cash value added (CVA) of the heterogeneous companies because they consider both costs of debts and equity in their calculations. The financial performance was proxy with return on assets (ROA).

The regression model used to access the relationship between the dependent and independent variables is as shown below:

$$\text{ROA} = f(\text{EVA}, \text{CVA}) \quad (1)$$

To empirically express the relationship between shareholders' value creation measures proxy by EVA, CVA and financial performance index (ROA) of the selected quoted Nigerian manufacturing industries, the following model was adopted:

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{EVA}_{it} + \beta_2 \text{CVA}_{it} + \varepsilon_{it} \quad (2)$$

Where;  $i = (1, 2, \dots, N)$  and  $t = (1, 2, \dots, T)$

$\beta_0$  = the constant term,

**ROA** = Returns on Assets of listed manufacturing Companies,

**EVA** = Economic Value Added,

**CVA** = Cash Value Added,

$\beta_1, \beta_2$  = Coefficients estimated or the Coefficients of slope parameters,

$\varepsilon$  = Error term,

**N** = Number of companies observed or cross section,

**T** = Number of time period.

In this model, however, ROA is the dependent variable while EVA and CVA are the independent variables.

#### Description of Model Variables

From the panel multiple regression equation adopted, its variables are as follow:

##### Return on Assets (ROA)

It measures how efficiently the assets of a company are utilized to generate profits for the company. A higher ROA would mean higher patronage.

##### Economic Value Added (EVA)

EVA is the difference between the net operating profit after tax of the business and the cost of the opportunity the capital invested in the business organization. It is described as an estimate of a firm's economic profit resulting from the excess of returns on capital invested over the cost of debt and capital used for the financing (Haddad, 2012; De-Villier, 2017).

##### Cash Value Added (CVA)

It is the difference between operating cash flow (OCF) and operating cash flow demand (OCFD) where OCF involves cash items such as earnings before depreciation, interest and tax while OCFD is the cost of capital invested. CVA calculates the excess cash flows generated over the capital cost putting into consideration all the benefits of EVA and at the same time trying to improve on it by using cash flows instead of profit figures as it is used by EVA (Magill, Quinzii and Rochet, 2013).

##### Analytical Techniques

The connection between dependent variable and independent variable was viewed with the panel data regression model. To investigate the reliability of the historical panel data gathered, diagnostic tests were carried out on the regression model. This model was estimated through pooled time-series, cross-sectional heteroskedasticity and time series autoregression. Major assumptions of linearity, multicollinearity, normality and heterogeneity were ascertained. Jarque-Bera normality test



was also applicable for the test of reliability which measures the consistency of the instrument used.

The descriptive statistics for economic value-added, cash value-added, and returns on asset are presented in Table 1.

**RESULTS/FINDINGS**

**Table 1: Descriptive Statistics**

	<b>ROA</b>	<b>EVA</b>	<b>CVA</b>
Mean	-0.401730	5.786825	6.644590
Std. Dev.	0.170742	0.170341	0.015367
Kurtosis	8.816108	211.9327	75.20017
Jarque-Bera	318.0424	411456.4	48502.62
Probability	0.000000	0.000000	0.000000
Obs.	225	225	225

**Source: Researcher’s Computation, 2023**

The result in the table 1 above showed the descriptive characteristics of economic value added, cash value added and return on assets of manufacturing companies in Nigeria. The return on assets which was proxy for financial performance witnessed negative growth of 0.401730. The statistics also revealed average value of EVA and CVA as 5.786825 and 6.644590 respectively. This shows that all the variables have relatively low mean value and standard deviation which indicated little dispersion from the value. This implies that the variables cluster around their respective mean value.

Meanwhile, the Jarque Bera normality statistics tests the null hypothesis of normal distribution against the alternative hypothesis of non-normal distribution. If the probability value as presented in Table 1 exceeds 5%, then the null hypothesis of the normal distribution is accepted, otherwise, the null hypothesis of the normal distribution will be rejected. The Jarque Bera probability values of returns on asset, economic value-added and cash value-added were normally distributed at a significant value of 5% which implies that the variables were normally distributed. The implication of the result is that shareholders are becoming more aware of the need for companies to create values for their investments through full utilization of all its assets.

The result further indicated that the data sets namely returns on asset, economic value-added, and cash value-added were positively skewed to the right while data series were leptokurtic with Kurtosis value of above 3 which means that the variable may be far from normality.

**Correlation Matrix**

**Table 2: Correlation Test on ROA in Relation to the Independent Variables**

	<b>LROA</b>	<b>LEVA</b>	<b>LCVA</b>
<b>LROA</b>	1.000		
<b>LEVA</b>	-0.141	1.000	
<b>LCVA</b>	-0.076	0.521	1.000

**Source: Researcher’s Computation, 2023**

The correlation result from the above Table 2 between returns on asset and economic value-added and cash value-added from Table 2 revealed low or negative correlation values. This implies that there exists a low degree or negative relationship among them suggesting the absence of multicollinearity.

**Table 3: Regression Analysis**

<b>Dependent variable: ROA</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistics</b>	<b>Prob.</b>
<b>LEVA</b>	-0.084966	0.040812	-2.081897	0.0385**
<b>LCVA</b>	-0.357189	0.539267	-0.662360	0.5084
<b>C</b>	4.307330	3.424138	1.257931	0.2098



<b>R-squared</b>	0.755434
<b>Adjusted R-squared</b>	0.738023
<b>F-statistics</b>	3.183781
<b>Prob(F-statistics)</b>	0.014412
<b>Durbin-Watson stat</b>	1.735012
<b>Pesaran CD</b>	1.519123
<b>Probability</b>	0.1287
<b>** Significance at 5%</b>	

#### Source: Researcher's Computation, 2023

The result of the random effect regression was reported in Table 3 to show the relationship between the independent variables and the dependent variable. The independent variables include the EVA and CVA. EVA was found to have a significant effect on the ROA with a coefficient and probability of -0.084966 and 0.0385 respectively. This indicates that a 1% increase in EVA would lead to an 8.5% fall in the ROA of listed manufacturing companies in Nigeria. The result also shows that cash value added has a coefficient and probability values of -0.357189 and 0.5084. This implies that CVA has a negative effect on the ROA and a unit increase in CVA would lead to a 35.72% fall in the ROA of listed manufacturing companies in Nigeria though insignificant.

The adjusted R-squared for the random-effect model was reported in table 7 and it was given as 0.738023. This implies that the explanatory variables namely EVA, and CVA contributed 73.8% to any observable changes in ROA of listed manufacturing companies in Nigeria while the remaining 26.2% reveals the changes that were caused by other variables not captured in the model. This implies that the result of the analysis is highly fitted to the regression line.

The Durbin-Watson auto-correlation test was employed to check if there was the presence or absence of auto-correlation in the residual of the regression. If the Durbin-Watson value falls within the region of 1.5 and 2.5, we conclude that the absence of auto-correlation exists and if the Durbin-Watson value falls outside the region of 1.5 and 2.5 we will conclude that there exists the presence of auto-correlation in the regression residual. The value of the test as reported in table 6 was given as 1.735012 which fell between the acceptance region of 1.5 and 2.5 and thus, it was concluded that the absence of auto-correlation existed in the residuals of the model.

In order to validate the research hypotheses, the study employed t-statistics. The general rule is to discard the null-hypothesis if there is no significant link between the explanatory variables and dependent variable with the proviso that the absolute value of t-statistics is high with a relatively low probability value which must be significant at 5%.

The result revealed that EVA has a t-statistic value of -2.081897 with a corresponding probability value of 0.0385 which was significant at 5% indicating that EVA has a significant effect on ROA. This resulted in the rejection of the null-hypothesis that EVA has no significant impact on the ROA of listed manufacturing companies in Nigeria. The null-hypothesis was rejected while the alternate hypothesis was accepted.

However, the t-statistic value for CVA was given as -0.662360 with a corresponding probability value of 0.5084 which is not significant at 0.05 (Sig. Level) leading to the acceptance of the null hypothesis which stated that CVA has no significant effect on the ROA of listed selected manufacturing companies in Nigeria hence, the rejection of the alternate-hypothesis.

#### CONCLUSION AND RECOMMENDATIONS

The study suggests that EVA has a significant effect on ROA of manufacturing companies in Nigeria which was a proxy for financial performance. This study is related to the findings of Yudina & Daryanto, (2019); Nze & Oshim, (2020); Subedi & Farazmand, (2020), Omneya et al (2021) with the proposition that financial performance can be measured with the aid of EVA to reveal the actual state of the financial health of a company. It however opposed the findings of Ahmadyan & Khansari, (2019) that revealed that EVA did not have any significant effect on financial performance of companies.



The study revealed that CVA has no significant effect on ROA at a coefficient of -0.357189 and probability of 0.5084 which is greater than 0.05. The null hypothesis was accepted which stated that there was no significant effect of CVA on ROA. The result is in tandem with the outcomes of Shahveisi et al (2012), Al-Omush (2014) and Poorzamani and Otari (2015) which concluded that value-based performance measurements such as CVA do not have effect on financial performance. With this study too, it can be concluded that CVA has no significant effect on the financial performance of listed selected Nigerian manufacturing companies. This result revealed that there are some factors that predict financial performance other than the cash value-added, though it is a value-based measuring tool that put into consideration the cost of capital and equity. The implication of the result is that other performance metrics should be considered when measuring financial performance rather than the CVA. This will enable a better and transparent reporting which eventually will aid investors to take decisions on their investments.

The adoption of economic value added as a financial performance metrics by manufacturing companies will allow complete inclusion of every cost which will invariably give the true position of the residual profit of the organization. The study, therefore recommends the acceptance and adoption of economic value added as a financial metric measure to determine shareholders' value creation of manufacturing companies in Nigeria. Manufacturing companies should embrace value based measures such as economic value added that inculcates all intrinsic costs to determine the true financial performance of the company. The going concern of any organization is therefore secured by constant growth in its financial performance and the ability of shareholders to competently measure the performance using appropriate techniques.

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