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BUSINESS VALUATION MODEL AND SHAREHOLDERS WEALTH OF LISTED MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

The purpose of this study is to examine the relationship between business valuation model and shareholders wealth of manufacturing companies in Rivers State. The study adopted cross sectional survey design; hence the study is a correlational study. The population of the study comprises of thirty (30) manufacturing companies in Rivers State. The study target respondents comprised of customers manufacturing companies in Rivers State which gave a total of three hundred and seventeen (317) respondents. Because of the target study respondents was finite in number, the entire respondents were studied using census. The data collection for the study was done through the use of structured closed ended questionnaire. The collected data was analyzed using Pearson Product Moment Correlation Coefficient Statistics (PPMCC) and data presented through Statistical Package for Social Sciences (SPSS) version 20.0. The study findings showed all the dimensions of the predictor variable (business valuation models) of asset based valuation, income based valuation, and dividend and the measures of criterion variable (listed price) of stock price showing positive significant relationship. Also, the study finding showed business valuation models were an indispensable tool for listed price in manufacturing companies in Nigeria, relying on the study findings, we concluded that, there is a significant positive relationship between asset valuation model and stock price. We therefore, recommended that the management of manufacturing companies should pays attention to various business valuation models outcomes and strategically integrates them to the operational activities of the employees; this will invariably enhance the job performance and creativity level in term of idea generation to make effective talent decisions

KEYWORDS: business valuation, shareholders wealth, manufacturing firms.

INTRODUCTION

Business valuation is a process and a set of procedures used to estimate the economic value of an owner`s interest in a business (Campbell, Johnson and Howard, 2001). In the process, valuation tools are used by market participants to determine firm value in circumstances surrounding buy/sell of a business. Many approaches/formulas are advocated by researchers in carrying out this important assignment. The major approaches as identified by Price, Vos and Dixon (1987) include the book value, adjusted book value, replacement value, liquidation value, the capitalization of earnings, the excess earnings, discounted cash flow and the market valuation techniques. While Fernander, (2006) classified valuation methods into six groups – the balance sheet, income statement, mixed goodwill, cash-flow discounting, value creation and options.

The above approaches could basically be grouped into four major groups namely - the asset-based, the income/earnings-based, the cash flow discounting and the market-based valuation approaches (Stevenson, Roberts and Grousebeck 1989). Researchers and professionals advocate these approaches in the literature as being theoretically correct for valuation of private businesses using data from publicly listed companies (Anderson, 2009, Mastracchio and Lippitt, 1996; Lippitt and Mustracchio, 1993; Pratt, 1993; Buns and Walker, 1991; Lloyd and Hand,1982; Boatman and Baskin, 1981; Carland and White, 1980 and LeClair, 1990). It is revealed in some studies that no single technique of valuation method will give a value that will be considered to be accurate because each approach has its advantages and drawbacks; most often more than one technique are combined and reconciled with each other to arrive at an acceptable value calculated (Corporate Professionals,

2012). However, finance and accounting literatures do not appear to have agreed on any generally accepted model for determining the value of private firms.

Because of the dominance of small and medium enterprises (SME`s) in the entrepreneurial industry in Nigeria, coupled with capital market imperfections, sellers and buyers of SME`s most often determine the value of their firms through an intricate process of negotiation between them which most of the time may involve an intermediary called agent at a percentage cost (Okafor and Onwumere, 2011). Such a process of business valuation through negotiation could be assumed to be unscientific, and lacking in strong theoretical support in the literature. Therefore, in choosing the appropriate approach for valuing private firms in the Nigerian business environment, appraisers should consider the theoretical support of the approach in relation to Nigeria's business environment.

In the previous study of Okafor and Onwumere (2011), the authors considered the process and common techniques for estimating the value of firms and the type of data utilized in the process. Two basic models were evident – (i) the earnings valuation model and (ii) the model involving combination of balance sheet and income statement variables.

The two models capture the environmental conditions in the economy and have evidence of theoretical support in the literature. In this study, we shall empirically use descriptive and quantitative data to ascertain which of the two models proves to be better than the other in valuing manufacturing companies in Nigeria.

Statement of the Problem

For decision-makers, investors, and sector stakeholders, the link between business valuation models and shareholders wealth of consumer goods in manufacturing industries presents both a substantial challenge and opportunity.Although business valuation models offer a methodical way to evaluate the inherent worth of manufacturing firms, it is important to comprehend how these appraisals affect how consumer goods are priced.Exploring the intricate interactions between these components is crucial because they can both affect valuation outcomes and shareholders wealth due to external factors and market dynamics.

Valuing companies accurately in Nigeria presents unique challenges due to the country's specific economic, regulatory, and market conditions. The problem lies in determining which valuation models are most appropriate for Nigerian companies and how they impact the listed price. Understanding this relationship is crucial for investors, analysts, and entrepreneurs seeking to make informed decisions in the Nigerian business landscape.

The relationship between business valuation models and shareholders wealth of consumer goods in manufacturing industries poses a significant challenge and opportunity for decision-makers, investors, and stakeholders within the sector. While business valuation models provide a systematic approach to assessing the intrinsic value of manufacturing companies, there is a need to understand how these valuations influence the pricing strategies of consumer goods. Additionally, external factors and market dynamics can impact both valuation outcomes and shareholders wealth, making it essential to explore the complex interplay between these aspects.

Furthermore, despite the availability of multiple business valuation models, there is limited research on the effectiveness of these models concerning consumer goods companies in the manufacturing industry. Investors and analysts face challenges in selecting the most appropriate model for accurate valuation, potentially leading to misinformed decisions and suboptimal investments.

Conceptual Framework:

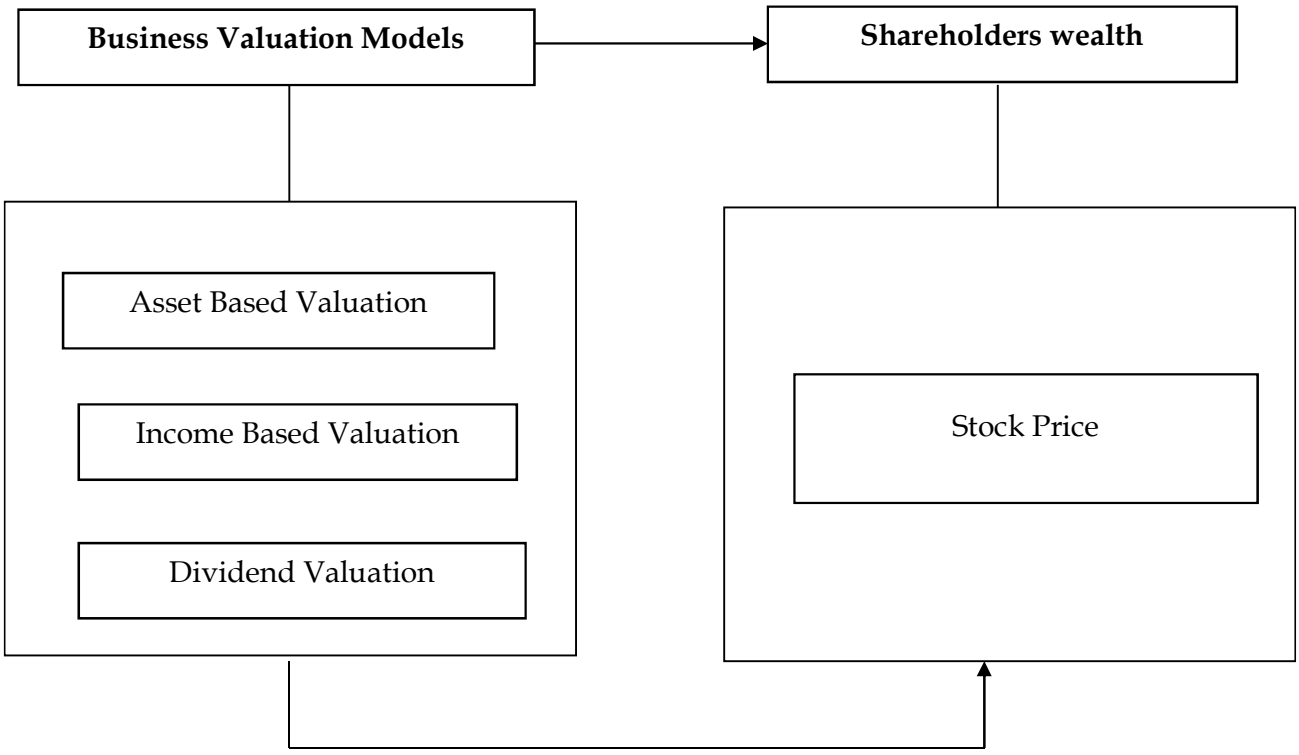

Fig 1: Conceptual framework of the relationship between business valuation model and shareholders wealth of manufacturing in Nigeria

Purpose of the study

The purpose of the study was to examine the relationship between business valuation models and shareholders wealth of listed manufacturing companies in Nigeria. Specifically, the following objectives are to:

1. Determine the relationship between Asset based valuation and shareholders wealth of listed manufacturing companies in Nigeria
2. Determine the relationship between income based valuation and shareholders wealth of listed manufacturing companies in Nigeria
3. Determine the relationship between dividend based valuation and shareholders wealth of listed manufacturing companies in Nigeria

Research Questions

1. What is the relationship between Asset-based valuation and shareholders wealth of listed manufacturing companies in Nigeria?
2. What is the relationship between income-based valuation and shareholders wealth of listed manufacturing companies in Nigeria?
3. What is the relationship between dividend-based valuation and shareholders wealth of listed manufacturing companies in Nigeria?

Research Hypotheses

Ho_1 There is no significant relationship between asset based valuation and stock price of manufacturing companies in Nigeria

Ho_2 There is no significant relationship between income based valuation and stock price of manufacturing companies in Nigeria

Ho_3 There is no significant relationship between dividend based valuation and stock price of manufacturing companies in Nigeria

Significance of the Study

This study holds several significant implications for investors, analysts, and stakeholders in the consumer goods manufacturing industry. It will enhance the understanding of the effectiveness of various valuation models and their implications for investment decisions. By identifying the most appropriate models, investors can make informed choices, mitigating risks and maximizing returns.

REVIEW OF LITERATURE

Theoretical Review

Financial Valuation Theories

Financial valuation theories are foundational concepts and frameworks used to assess the worth of assets, businesses, or investment opportunities. These theories provide a systematic approach to determining the intrinsic value of financial instruments and are widely applied in various fields, including corporate finance, investment management, and mergers and acquisitions. Some of the prominent techniques of financial valuation theories include;

Discounted Cash Flow (DCF) Analysis: DCF analysis is one of the fundamental financial valuation theories used to estimate the present value of future cash flows generated by an investment or business. It is based on the time value of money concept, which states that a dollar received in the future is worth less than a dollar received today due to the opportunity cost of capital. DCF analysis takes into account projected cash flows, a discount rate (often the weighted average cost of capital), and a terminal value to arrive at the present value of the investment or business.

Capital Asset Pricing Model (CAPM): CAPM, developed by William Sharpe, John Lintner, and Jan Mossin, is a widely used model for determining an asset's expected return based on its risk and market risk premium. In business valuation, CAPM is often employed to calculate the cost of equity capital and discount rates, essential components of the DCF model.CAPM is a widely used financial valuation theory that provides a framework for estimating the required rate of return on an asset based on its risk and the risk-free rate of return. The model takes into account the systematic risk, as measured by beta, and the market risk premium. CAPM is commonly used to determine the cost of equity capital, a crucial component in DCF analysis and other valuation models.

Modern Portfolio Theory (MPT): MPT, developed by Harry Markowitz, forms the foundation of portfolio management. It emphasizes the importance of diversification and risk-return trade-offs in constructing investment portfolios. In the context of business valuation, MPT highlights the significance of risk assessment and how it influences discount rates in the Discounted Cash Flow (DCF) model, impacting the valuation of manufacturing companies.

Market-Based Theories

Efficient Market Hypothesis (EMH): EMH posits that financial markets are efficient and reflect all available information. In the context of shareholders wealth of consumer goods, EMH suggests that the market price of a product should already incorporate all publicly available information, including company valuation data.

Conceptual Review

Business Valuation Models

Existing literature on business valuation models and their application in Nigeria has revealed a strong relationship between the selected model and the resulting listed price. Studies have explored various valuation models, including discounted cash flow (DCF), market multiples, asset-based, and relative valuation models. The literature suggests that the application of these models in the Nigerian context requires considerations specific to the country's economic conditions, regulatory frameworks, and market dynamics. Business Valuation Models, according to Odinakachukwu Ifeanyichukwu Ogaluzor in his book Advanced Financial Accounting (Vol 2) is the process of determining the value or worth of an organization for the purpose of establishing the following; the purchase consideration in the event of a sale, merger or acquisition and the value per share. Business valuation is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Business Valuation is used by financial market participants to determine the price they are willing to pay or receive to effect the sale of a business. It can also be defined as the general process of determining the economic value of a whole business or company unit. Business valuation can be used to determine the fair value of a business for a variety of reasons, including sales value, establishing partner ownership, taxation, and even divorce proceedings. (Matog Consulting – 2022). A business valuation, also known as a company valuation, is the process of determining the economic value of a business. During the valuation process, all areas of a business are analyzed to determine its worth and the worth of its departments or units. It is also a general process of determining the economic value of a whole business or a company unit(Adam Hayes, David Kindness, Timothy Li – Valuing a Company: Business Valuation Defined with 6 Methods March 2023). Business valuation is a process and a set of procedures used to estimate the economic value of an owner`s interest in a business (Campbell, Johnson and Howard, 2001). In the course of this article, we will be looking at the various business valuation models not to mention but a few just for the purpose of this article.

Asset-Based Valuation Model: It is also seen as one of the approaches used to calculate the value of a business. It values a business based on the assets it possesses. The method evaluates assets and liabilities, obtains their fair market value, and deducts the liabilities from assets.

It is a form of valuation in business that focuses on the value of a company's assets or the fair market value of its total assets after deducting liabilities. Assets are evaluated, and the fair market value is obtained. This method is an effective way to determine the price demandable while selling a company. In addition, it helps analyse the cost of recreating a similar business or replacing all assets per the current market environment. Hence, clear information about the business's worth helps the owner confidently make deals and offerings.

An asset-based valuation approach determines the fair market value of all assets to determine the current worth of the firm. The method is important because assets are an important factor in the revenue generation process. The basic concept implies that the value of the total company equity is equivalent to the value of the total company assets (tangible and intangible) minus the value of the total company liabilities (recorded and contingent).This approach considers the company's balance sheet, taking into account assets such as cash, property, equipment, intellectual property, and goodwill. Asset-based valuation methods include book value, liquidation value, or replacement value. This model is particularly relevant for companies with significant asset holdings or those in asset-intensive industries. The Asset Based Model has the following approaches:

The book value approach is practically useless. The book value of non-current assets is based on historical (sunk) costs and relatively arbitrary depreciation. These amounts are unlikely to be relevant to any purchaser (or seller). The book values of net current assets (other than cash) might also not be relevant as inventory and receivables might require adjustment.

Net realisable values of the assets less liabilities. This amount would represent what should be left for shareholders if the assets were sold off and the liabilities settled. However, if the business being

sold is successful, then shareholders would expect to receive more than the net realisable value of the net assets because successful businesses are more than the sum of their net tangible assets: they have intangible assets such as goodwill, knowhow, brands and customer lists – none of which is likely to be reflected in the net realisable value of the assets less liabilities. Net realisable value therefore represents a 'worst case' scenario because, presumably, selling off the tangible assets would always be available as an option. The selling shareholders should therefore not accept less than the net realisable amount – but should usually hope for more.
Replacement values. Once again, not of great practical benefit. The approach tries to determine what it would cost to set up the business if it were being started now. The value of a successful business using replacement values is likely to be lower than its true value unless an estimate is made for the value of goodwill and other intangible assets, such as brands. Furthermore, estimating the replacement cost of a variety of assets of different ages can be difficult. So, of the three approaches, net realisable value is likely to be the most useful because it presents the sellers with the lowest value they should accept.

Income Based Approach
Income-based valuation refers to a set of methods used to estimate the value of a business, investment, or asset based on its capacity to generate income. These valuation methods typically involve forecasting future cash flows or earnings and discounting them to present value using an appropriate discount rate. Income-based valuation methods are widely used in various financial contexts, including mergers and acquisitions, equity valuation, and investment analysis. They provide an objective framework for assessing the financial performance and growth prospects of a business, enabling investors and business owners to make informed decisions.

Shareholders wealth
Shareholders' wealth is the present value of the expected return that shareholders will get from the companies that they have invested. Shareholders can benefit from their investments when the stock price appreciates or an increase in dividend payments (Akit, Hamzah, & Ahmad, 2015). Shareholder's wealth is defined as the present value of the expected future returns to the owners (Shareholders) of the firm. These periodic returns can take the form of periodic dividend payments and/or proceeds from the sale of stock. Shareholders' wealth is measured by the market value of the firm's ordinary shares. Shareholders' wealth is represented in the market price of the company's ordinary shares, which, in turn, is the function of the company's investment, financing and dividend decision (James & John, as cited in Azhagaiah & Priya, 2008). Managements' primary goal is shareholders' wealth maximization, which translates into maximizing the value of the company as measured by the price of the company's ordinary shares.
Shareholders' wealth is mainly influenced by growth in sales, improvement in profit margin, capital investment decisions and capital structure decisions (Azhagaiah & Priya, 2008).
For a publicly traded company, shareholder wealth SW) is the part of its capitalization that is equity as opposed to long-term debt. In the case of only one type of stock, this would roughly be the number of outstanding shares times current share price. Shareholders' wealth added up should be compared to required increase in value, also known as cost of capital. Shareholders as the owners of businesses, require managers to maximize their investment value. There are different criteria to measure and make value judgments about company performance, (Hejaz and Hosseini, 2006). One way to reduce conflicts of interest between owners and managers is the utilization of a capital structure that increase the company value (Rigi,2010). Creating and enhancing long-term shareholders' wealth are among the companies' main objectives and increase in wealth is achieved only by the optimal performance. In order to evaluate the optimal performance of the business unit different criteria have been used, the ones being the variable of value-based performance assessment.

Empirical Review

The issue of developing appropriate models for the evaluation of private businesses has been addressed by many researchers. Boatsman and Baskin (1981); Carland and White (1980); Shilt (1984); LeClair (1990); Lloyd, et. al.(1982), Lippitt and Mastracchio (1993); Mustracchio and Lippitt (1996) as well as Pricer and Johnson (1997) have all tested the reliability of different valuation models. All the researchers used publicly listed firms in their study because the market prices of small firms' shares are difficult to ascertain.

Boastman and Baskin (1981) have developed a model based on the capital asset pricing model, and applied it through a two stage process in estimating the market value of an unlisted firm. First, he selected a publicly listed firm which cash flows closely correlated with that of the private small firm being assessed. The model was applied to the surrogate listed firm and the resulting assessed value adopted as the approximate value for the private small firm being assessed. Both the earnings capitalization and the excess earrings valuation approaches were applied in the valuation. The authors indicated that their empirical results provided more support for the capitalization valuation approach.

Furthermore, Mastracchio and Lippitt (1996) have examined the relative abilities of the earnings capitalization model and the excess earnings using publicly traded firms of some industries. They provided empirical evidence to show that excess earnings can provide estimates of value that are superior to those of the earnings capitalization model. Shilt (1984) tried to provide the validity of the excess earnings model by arguing that firms with high rate of earnings on tangible assets should have a lot of goodwill. Thus, goodwill was calculated as the difference between market value and net worth. The result however, indicated no strong correlation between return on net tangible assets and percentage of net worth comprising the goodwill component. Therefore, the result provided very limited support for the excess earnings model. LeClair (1990) compared earnings capitalization model (EC model) with the excess earnings model. Based on his comparison on an industry-by-industry base, he developed an adjusted book value model, which is used to derive the value of a firm.

LeClair model leads to large margins of error when applied across industries. It displayed a disturbing tendency to yield overvaluation and undervaluation depending on the industries. The poor performance of the excess earnings model could be traced by lack of linkage to a market determined discount rate. As Pratt (1989) has argued, the most difficult thing in a valuation based on EC model and other historical earnings models is the determination of what rate of capitalization to use. Evaluators either rely on a market determined rate or else build their own rates based on the prevailing risk free rate of return and the appropriate risk premium.

Most arguments in the literature maintain that book value provides sound basis for estimating firm value because it is the assets of a business which are manipulated to generate income (Pricer and Johnson, 1997). In spite of the laudable arguments of previous researchers in favour of asset valuation model, the position of this study is that the asset valuation model may not yield optimal results in Nigeria because of the peculiar environment. It has been established that sole proprietorship and retail and service type of businesses constitutes greater percentage of small businesses existing in Nigeria (Okafor, 2007). This form and this type of businesses dominant in Nigeria do not possess large asset base and the value of such firms may be in their ability to reach a profitable market through location where they offer unique products and services which may result in large earnings. Thus, the value of such firms should be derived from the earnings stream generated by the business.

An analysis of the models above shows that none of the models identified by the authors could be used effectively in Nigeria because of the limitations and challenges in the approaches. It is imperative to modify a model from those approaches to get a likely valuation model of private business valuation model for the Nigerian government.

METHODOLOGY

Research Design

The research design adopted for this study was the *expost facto* research design. The reasons being that the data in respect to business valuation models and shareholders' wealth are already existing as reported in the financial statement of listed manufacturing firms on the Nigerian Exchange Group. Therefore, they were beyond the manipulations of the researcher.

Population of the Study

The target population of this study was a total of 34 manufacturing companies in Rivers State out of which five (5) were plastic manufacturing companies (see table 3.1).

Table 3.1 List Manufacturing Companies

S/N	Names of Companies	Population
1.	General Plastic Nigeria Ltd	
2.	Delta Plastic Ltd	
3.	Nikko Industries Nig. Ltd	
4.	Sun Flower Manufacturing Company Ltd	
5.	Polo Packaging Industries Ltd	

Source: Manufacturer Association of Nigeria: Rivers/Bayelsa Directory, 2023

Sample Size and Sampling Techniques

Sampling is the process by which a subset of persons or observations from a large set is drawn and studied in order to make inferences about the characteristics of a larger group. However, the population is known, therefore, a sample size that can be feasibly covered is acquired for the study.

Method of Data Collection

The method of data collection for this study was through the secondary data. This was possible through the published financial reports of the selected listed manufacturing firms from 2014-2023.

Measurement of Study Variables

According to Sekaran (2003) unless the variables are measured in some ways, we will not be able to test our hypotheses and find answers to complex research issues. The instrument measurement involves operationalization and instrumentalization of variables.

The study therefore, measured business valuation models and shareholders wealth using data extracted from the annual report of the listed manufacturing firms in Rivers State Nigeria.

Methods of Data Analysis

The data obtained from the field using the questionnaire was presented in tables, and simple percentage method to process the data, and the result interpreted. For the purpose of determining the relationship between the studies variable E-view9.0was used.

DATA PRESENTATION, ANALYSIS

Field Report

The researcher carried out data cleaning before the analysis proper. Data cleaning is one important preliminary task of any data analysis process. The reason for data cleaning is to ensure that only useful data were used in the presentation and analysis of the responses. The data for listed manufacturing firms as extracted from the website of Nigeria Exchange Group were stack based on the variables used for the study using Microsoft excel.

Analysis and Presentation of Results

Business Valuation Models and Stock Price of Listed Manufacturing Firms in Nigeria.

Table 4.1: Presentation of Panel Unit Root Test

Method: Series: SP	Statistic	Prob.**	Cross-sections	Obs
Panel Unit Root Test at Level				
Levin, Lin & Chu t*	-15.1740	0.0000	5	176
Im, Pesaran and Shin W-stat	-3.63580	0.0001	5	176
ADF - Fisher Chi-square	66.4149	0.0161	5	176
PP - Fisher Chi-square	54.4879	0.1336	5	198
Series: ABV				
Levin, Lin & Chu t*	-0.25903	0.3978	5	112
Im, Pesaran and Shin W-stat	2.39923	0.9918	5	104
ADF - Fisher Chi-square	9.07278	0.9991	5	104
PP - Fisher Chi-square	8.13728	0.9997	5	117
Series: IBV				
Levin, Lin & Chu t*	-47.8625	0.0000	5	168
Im, Pesaran and Shin W-stat	-10.2433	0.0000	5	168
ADF - Fisher Chi-square	67.7682	0.0071	5	168
PP - Fisher Chi-square	61.1012	0.0285	5	189
Series: DBV				
Levin, Lin & Chu t*	-30.52342	0.4185	5	112
Im, Pesaran and Shin W-stat	3.42403	0.8618	5	104
ADF - Fisher Chi-square	8.52875	0.76591	5	104
PP - Fisher Chi-square	9.38738	0.66572	5	117
Panel Unit Root Test at Difference				
Method: Series: DV(SP,2)	Statistic	Prob.**	Cross-sections	Obs
Levin, Lin & Chu t*	-5.56908	0.0000	22	132
Im, Pesaran and Shin W-stat	-3.50103	0.0002	22	132
ADF - Fisher Chi-square	92.1196	0.0000	22	132
PP - Fisher Chi-square	213.653	0.0000	22	154
Series: DV(ABV,2)				
Levin, Lin & Chu t*	-8.03669	0.0000	13	78
Im, Pesaran and Shin W-stat	-2.17746	0.0147	12	72
ADF - Fisher Chi-square	45.5624	0.0050	12	72
PP - Fisher Chi-square	111.156	0.0000	11	77
Series: DV(IBV,2)				
Levin, Lin & Chu t*	-24.6668	0.0000	21	126
Im, Pesaran and Shin W-stat	-8.60162	0.0000	21	126
ADF - Fisher Chi-square	108.648	0.0000	21	126
PP - Fisher Chi-square	261.238	0.0000	21	147

Source: Extract from E-view 9.0

To check the stationarity of our data we use the two types of panel unit root tests. As common unit root process we use Levin, Lin and Chu panel unit root test and for individual unit root process we use three type of panel unit root tests, first one is Im, Pesaran and Shin panel unit root test, second is Fisher type test, the ADF-Fisher chi-square test and last one is also a fisher type test, the PP-Fisher Chi square panel unit root test. From table 4.1 the study concludes that the variables are stationary at first difference and integrated in the order of 1(I). The results presented in table 4.1 enables us to present our regression results as formulated in chapter three of this study.

Table 4.2: Business Valuation Models and Stock Price

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Pooled Regression Results				
ABV	0.240603	0.020770	11.58419	0.0000
IBV	0.363784	0.090464	4.021306	0.0001
DV	0.233425	0.044273	3.527388	0.0000
BVM	1.385662	1.329340	1.042369	0.2984
R-squared	0.509159	Mean dependent var		7.116046
Adjusted R-squared	0.502342	S.D. dependent var		0.846256
S.E. of regression	0.596990	Akaike info criterion		1.824183
Sum squared resid	76.98185	Schwarz criterion		1.885885
Log likelihood	-196.6601	Hannan-Quinn criter.		1.849100
F-statistic	74.68707	Durbin-Watson stat		0.574503
Prob(F-statistic)	0.000000			
Fixed Regression Results				
ABV	0.065815	0.015657	4.203403	0.0000
IBV	0.442848	0.140560	3.150597	0.0019
DV	0.225375	0.062005	2.213002	0.0005
BVM	4.532644	1.080128	4.196394	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.914809	Mean dependent var		7.116046
Adjusted R-squared	0.904324	S.D. dependent var		0.846256
S.E. of regression	0.261760	Akaike info criterion		0.263865
Sum squared resid	13.36103	Schwarz criterion		0.649504
Log likelihood	-4.025116	Hannan-Quinn criter.		0.419596
F-statistic	87.24922	Durbin-Watson stat		1.769453
Prob(F-statistic)	0.000000			
Random Regression Results				
ABV	0.078099	0.015284	5.109780	0.0000
IBV	0.482884	0.122140	3.953516	0.0001
DV	0.053365	0.009220	1.588035	0.0001
BVM	4.078770	0.991582	4.113394	0.0001
Effects Specification				
			S.D.	Rho
Cross-section random			0.514877	0.7946
Idiosyncratic random			0.261760	0.2054
Weighted Statistics				
R-squared	0.193900	Mean dependent var		1.129528
Adjusted R-squared	0.182705	S.D. dependent var		0.297534
S.E. of regression	0.268984	Sum squared resid		15.62813
F-statistic	17.31898	Durbin-Watson stat		1.494387
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.355338	Mean dependent var		7.116046
Sum squared resid	101.1067	Durbin-Watson stat		0.350813

Source: Extract from E-view 9.0

From the pooled effect results, the independent variables explained 50.2 percent variation in Stock Price of the listed manufacturing firms within the periods covered in the study. The model is statistically significant when judged from the f-statistic and probability while the Durbin Watson statistic proves that the variables have no serial autocorrelations. the beta coefficient proves that debt capital, equity capital have positive and significant effect on Stock Price of the firms.

From the fixed effect results, the independent variables explained 90.4 percent variation in Stock Price of the listed manufacturing firms within the periods covered in the study. The model is statistically significant when judged from the f-statistic and probability while the Durbin Watson statistic proves that the variables have no serial autocorrelations. The beta coefficient proves that asset-based valuation, income-based valuation and dividend valuation have positive and significant effect on Stock Price of the firms.
From the random effect results, the independent variables explained 18.2 percent variation in Stock Price of the listed manufacturing firms within the periods covered in the study. The model is statistically significant when judged from the f-statistic and probability while the Durbin Watson statistic proves that the variables have no serial autocorrelations. The beta coefficient proves that asset-based valuation, income-based valuation and dividend valuation have positive and significant effect on Stock Price of the firms. The above results enable us to present the cointegration test.

Table 4.3: Pedroni Residual Cointegration Test

Series: SP (ABV,IBV & DV)

	Statistic	Prob.	Weighted-Statistic	Prob.
Panel v-Statistic	2.180724	0.0146	-0.904387	0.8171
Panel rho-Statistic	1.026744	0.8477	2.453550	0.9929
Panel PP-Statistic	-4.215273	0.0000	-2.520448	0.0059
Panel ADF-Statistic	-0.710299	0.2388	-0.858394	0.1953
	Statistic	Prob.		
Group rho-Statistic	4.161806	0.0000		
Group PP-Statistic	-4.010788	0.0000		
Group ADF-Statistic	0.123080	0.5490		

Source: Extract from E-view 9.0

For the analysis we use three types of panel co-integration test. One type of tests was introduced by Pedroni (1999) and a second type was introduced by Kao (1999) which is Engle-Granger (1987) two step residual based test, and a third type of tests was introduce by Fisher which a combined Johansen test. Pedroni (1999) derives seven panel co-integration test statistics. Of these seven statistics, four are based on within-dimension, and three are based on between-dimension. From Table 4.3 in every case of opportunity cost except in panel v-statistics long term and difference between long term and short term at 5% level of significance, accept the null hypothesis otherwise in all case at 5% level of significance we reject the null hypothesis of no co-integration. This means the variable has a long run relationship. Kao Residual Co-integration test also shows us for every case of opportunity cost at 5% level of significance we reject null hypothesis of no co-integration and every case p-value 0.00 which is highly significance its gives a strong evidence that the variables has a long run relationship.

Table 4.4: Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
ABV does not Granger Cause SP	50	2.38636	0.0950
SP does not Granger Cause ABV		8.86967	0.0002
IBV does not Granger Cause SP	50	0.95239	0.3879
SP does not Granger Cause IBV		0.76257	0.4680
DV does not Granger Cause SP	50	0.64415	0.2032
SP does not Granger Cause DV		0.52236	0.3323

Source: Extract from E-view 9.0

From the results in table 4.4, there is no causal relationship from asset based valuation to Stock Price therefore accept null hypothesis, there is causal relationship from Stock Price to asset based valuation therefore reject null hypothesis, there is no causal relationship from income based

valuation to Stock Price therefore accept null hypothesis, there is no causal relationship from Stock Price to income based valuation therefore accept null hypothesis. There is no causal relationship from dividend valuation to Stock Price therefore accept null hypothesis, there is no causal relationship from Stock Price to dividend valuation therefore accept null hypothesis.

SUMMARY

This study examined the relationship between business valuation model and shareholders wealth of manufacturing companies in Rivers State. With its objectives focused on determining how and the extent to which the dimensions of business valuation model (Asset based valuation, income based valuation and dividend based valuation) associate with all the measures of shareholders wealth (Stock price) in the study. In pursuit of these objectives, the study ensured that extant relevant literatures on the study variables were critically reviewed in the body of knowledge. In the quest for objectively assess the degree and significance of the association between the study variables, (3) statement of hypotheses was raised and subsequently analyzed with all the statistical tools earlier adopted for the study. Consequently, the findings indicated that business valuation models hold a strong positive and significant association with employee creativity in the plastic manufacturing companies in Nigeria. The empirical findings reported the following;

1. There is a strong positive and significant relationship between assets based valuation and stock price in manufacturing companies in Nigeria.
2. There is a strong positive and significant relationship between income based valuation and stock price in manufacturing companies in Nigeria.
3. There is a very strong positive and significant relationship between dividends based valuation and stock prince manufacturing companies in Nigeria.

CONCLUSION

Given the findings of the study, it concludes that business valuation models were an indispensable tool for listed pricein manufacturing companies in Nigeria. This is particularly because business valuation models dimensions exert positive influence on listed in the manufacturing sector under study. Furthermore, in line with the three (3) research questions and hypotheses raised in this study in relation to its objectives, these conclusions are summarized below as follows:

1. Asset based valuation has a strong positive and significant influence on the manufacturing companies in Nigeria.
2. Income based valuation has a strong positive and significant influence on stock price of manufacturing companies in Nigeria.
3. Dividend based valuation has a very strong positive and significant influence on the stock price of manufacturing companies in Nigeria.

However, there are different business valuation models analytics dimensions that have to be utilized to get a certain result in the manufacturing companies. When those dimensions are effectively harnessed, they help the organization achieve set goals and objectives.

RECOMMENDATIONS

In view of the various implications reported in this study as it relates to its findings, the study recommends the following:

1. That management of manufacturing companies should pays attention to various business valuation models outcomes and strategically integrates them to the operational activities of the employees; this will invariably enhance the job performance and creativity level in term of idea generation to make effective talent decisions.

2. That since it is evident that there is an existence of a relationship between descriptive business valuation models dimensions and shareholders wealth, it is suggested that the

managers in the organizations notably the manufacturing companies should utilize descriptive business valuation models outcomes effectively and know the right dimension to utilize so as to attain the desired outcome.

Contribution to Knowledge

As it is the aim of every research effort to significantly add to the body of knowledge existing in the area or field of research interest, so this study is not exempted, the following are identified areas the study is thought to have significantly contributed to existing body of knowledge. In this study the researcher divulged what business valuation models,denotes and how it can be harnessed in an organization. In this case the researcher operationalized business valuation models through predictive analytics, prescriptive analytics and descriptive analytics, thus dissolving the ambiguity which had clogged the concept before now.

1. Studies conducted relative to the concept have been theoretical in nature and mostly concerned with review of theories and related literature in the field, however this study contributes to knowledge by approaching the study from an empirical stance to ascertain the expediency/practicality within an industrial purview.
2. Another area this study has contributed to the body of knowledge; is carrying out the study in the manufacturing companies in Nigeria other than the previous trend of researches conducted on oil and gas companies, hospitality (specifically hotels) and other industries. Academicians are now presented with the functionality of the studied variables within the manufacturing companies in Nigeria.

Suggestions for Further Research

Although the study has significantly contributed to the body of knowledge, the researcher however identified some gaps that subsequent studies should fill having provided the springboards into such areas;

1. The industrial and geographical scope of the study is confined to the manufacturing companies operating in Nigeria; it becomes necessary that subsequent studies should seek to widen the scope by examining the workability of the variables in other industrial enclaves and within other geographical domains so that more valid conclusions can be reached.
2. Methodology adopted in carrying out this study was not without its peculiar shortcomings; cross sectional survey, the instruments for data collection as well as statistical tools used; however successive studies should employ other research methodologies in investigations.
3. Having examined the response of business valuation models and shareholders wealth, further studies should endeavor to ascertain the effect of other predictor variables on shareholders wealth in this era of heightened competition; such variables could include work-life balance, organizational learning and working environment, moreover, other prevailing contextual factors such as size, degrees of technology adoption etc.

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