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RESEARCH ARTICLE

Value-Relevance of Accounting Information in the Nigerian Stock Exchange

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ABSTRACT

The study investigates the value relevance of accounting information in the Nigerian Stock Exchange. The hypotheses were linearly modelled while adopting the pooled mean group estimation. The findings support the inputs-to-equity valuation theory that highlights the ability of accounting information to provide information on inputs to valuation models that investors use to value enterprises by revealing a significant relationship between earnings per share, dividend per share, and brand assets (intangible assets), and share prices in the companies being sampled. The findings reveal that accounting information is relevant in the Nigerian stock exchange. Given the significant impact of earnings per share, dividend per share, and brand assets (intangible assets), on share prices, the study thus recommends that accounting standard setters should work toward improving the quality of accounting information in Nigeria for investment decisions. It also recommends that policymakers increase the source credibility of intangible assets by developing better accounting standards for including internally generated intangible assets.

Keywords: *Value Relevance; Accounting Information; Earnings Per Share; Dividend Per Share; Nigerian Stock Exchange*

1. Introduction

The rapid rate of globalization and the emergence of international businesses have made the quality of accounting information provided to readers of financial statements of critical relevance. Quality accounting information is a prerequisite for well-functioning stock exchange and the economy as a whole, and as such, it should be of interest to investors, firms, governments, shareholders, investors, customers, employees, management, and competitors (Salawu, 2009). Investors, in general, are unable to judge the performance of companies in which they plan to invest directly. They commonly depend on financial statements generated by such an organization's management. Investors rely on accounting information to price shares, and companies that give high-quality information have a competitive edge in terms of the decreased cost of capital. Any information contained in a financial statement has the potential to help its users to determine the value of a company, which is the value relevance of such accounting information. The diverse requirement for accounting data by creditors and shareholders fueled an increased need to examine the value relevance of accounting data. Because it delivers direct usefulness of accounting information to its end users in the capital market, value relevance is the most fundamental proxy for accounting reporting quality. (Ogbodo, and Osisioma, 2020).

Due to the importance of financial reports as the most important source of externally feasible information for companies, standard setters, and stock market regulators are always devising ways to improve their quality, necessitating the necessity for studies on financial statements' relevance. (Utami and Noraya, 2010). The significance of accounting information in a growing economy like Nigeria cannot be overstated, especially given the peculiarities of the Nigerian context. Accounting information in listed poor databases, insufficient monitoring by companies in regulatory bodies, low compliance in the Nigerian stock exchange, creative accounting, and other factors have led to questions about the value relevance of accounting information in the Nigerian stock exchange. Following the reform of the Nigerian banking industry in 2009, Nigerian regulatory bodies (such as the CBN, NSE, and SEC) have become more active in monitoring the Nigerian Stock Exchange's operations. The Nigerian Stock Exchange's prosperity depends on the flow of accurate information; without it, savers would simply choose not to invest. Without credible and appropriate accounting information such as earnings, dividends, cash flow, book value per share, and so on, the Nigerian Stock Exchange (NSE) will not perform well. Because the financial sector is the engine that drives the economy, a deficit in the NSE will have a negative impact on the economy. As a result, establishing whether the market values of companies listed on the NSE accurately reflect accounting information is crucial not just to investors but also to Nigeria's economic progress.

2. Review of Related Literature

2.1 Conceptual Review

The desire for meaningful accounting disclosure has increased owing to the rising complexity of the business environment throughout the world. The literature on value relevance is concerned with the applicability of accounting records in stock valuation. The ability of the accounting variables presented in the financial statement to reflect the market price of shares is referred to as value relevance. Accounting information can capture the value of a firm. The association between information in the financial statements and share price can be used to determine value relevance (Obi, 2020) The value of a stock, according to traditional valuation theory based on economic theory, is equal to the present value of future net dividends (Enofe, Asiriuwa, and Ashafoke, 2014)

Francis and Schipper (1999) presented four techniques to determine the overall value relevance of financial accounting data. To begin, he considered the fundamental analysis study in accounting, in which accounting data causes stock prices to alter by recording values that market prices drift toward. Second, his prediction view of value relevance focuses on the relevant variables to be employed in valuation and how to anticipate them (future earnings, dividends, or future cash flows, return on equity). According to the third interpretation of value relevance, accounting information is valuable if investors use it to set prices. They assume that the stock market is efficient, and statistical association measures are used to determine whether investors use the information in question when making investment decisions. Finally, in contrast to the first three approaches, the fourth technique to determining value relevance is tightly linked to an accounting measurement perspective. The accounting metric captures the data that market participants use to set prices and returns.

The Companies and Allied Matters Act (CAMA) of 1990, as amended, requires the directors of all companies listed on the Nigerian Stock Exchange to compile and publish financial statements annually. In addition, the Nigerian Stock Exchange requires all companies that are listed on the first-tier market to file quarterly, semi-annual, and annual financial statements. Companies in the second-tier market are required to submit annual financial reports to the Stock Exchange.

2.2 Theoretical Literature

To draw inferences, this study is built on two separate accounting and standard-setting theories as highlighted by Holthausen and Watts (2001); "direct valuation theory and "inputs-to-equity-valuation theory". The direct valuation theory establishes a relationship between an equity's book value and its market value. Accounting earnings are supposed to either assess or be strongly linked with, movements or levels in equity market value in direct valuation theory.

Accounting's purpose in inputs-to-equity valuation theory is to offer information on inputs to valuation models that investors use to value enterprises. Standard setters are more interested in a study that suggests investors could utilize an accounting number or a possible accounting number in their valuation models under an inputs-to-equity valuation theory. This inference necessitates the use of a valuation model (valuation theory) and the assumption of a relationship between the accounting number and a variable in the valuation model. In general, incremental association studies are performed in value relevance investigations that apply an inputs-to-equity valuation framework (Holthausen and Watts, 2001).

2.3 Empirical Literature

The literature presents inconsistent results, and empirical data are sometimes mixed. Numerous value relevance studies have been conducted, with one stream of research focusing on whether the value relevance of accounting data has decreased or risen over time. The previous study has shown mixed results. On the one hand, previous research has indicated that the value relevance of accounting data has increased in recent years (Ogbodo and Osisioma, 2020; Musa, 2015; Ebeguki et al., 2016; Abubakar and Abubakar, 2015; Davies and Macfubara, 2018; Enow and Brijlal, 2016).

Ogbodo and Osisioma (2020) used Ordinary Least Square (OLS) regression analysis and the Granger Causality test to examine the relationship between the value relevance of accounting information and share price (NSE) with a data set comprising of industrial companies listed on the Nigerian Stock Exchange from 2010 to 2019. The results revealed that the Dividend per Share and the Share Price have a considerable positive relationship. They concluded that dividends play an important part in investors' decision-making when it comes to trading exchange companies.

Davies and Macfubara (2018) investigated the impact of financial risk on the value relevance of accounting data from Nigerian quoted insurance firms using the ordinary least square method of estimation. The result showed that the expenditure ratio and variation on earnings in general insurance earnings have a negative relationship with the value relevance of accounting information as measured by the aggregate stock prices of quoted insurance firms. They concluded that financial risk has a significant relationship with the value relevance of the quoted insurance firms' accounting records. Enow and Brijlal (2016) used a sample of fourteen (14) companies listed on the Johannesburg stock exchange from 2009 to 2013 to discover the factors that influence their share market price. Dividend per share, earnings per share, and the price-earnings ratio were the study's independent variables, while share prices were the study's dependent variable. The study found that dividend per share, profits per share, and the price-earnings ratio account for around 57.8% of market share price fluctuations.

Ebeguki et al. (2016) investigated the impact of financial statements on company share prices in Nigeria by looking at the relationship between earnings and share prices. The study found that earnings per share (EPS) and share price have a significant positive relationship. The study suggests that banks in the country improve the quality of earnings stated in their financial statements, as earnings have a greater capacity to explain firm share prices. This study is comparable to that of Ijeoma (2015), who discovered that earnings per share, book value per share, and return on equity all play a role in influencing share price in Nigeria's capital market. Musa (2015) adopts the ordinary least square regression method of estimation to explore the International Financial Reporting Standards (IFRS) and the value relevance of financial information across Nigerian listed firms after the adoption of IFRS. The regression result demonstrated a positive and significant link between the book value of equity and net income on stock price, indicating that financial information of Nigerian listed businesses is more value relevant since the introduction of IFRS. Abubakar and Abubakar (2015) examined the value relevance of accounting information of listed high-tech enterprises in Nigeria using a sample of nine high-tech firms over seven years from 2005 to 2011. At a 95% confidence level, the study discovered that reporting intangible assets such as brand assets (costs of marketing, distribution, promotional activities) in the statement of financial situations of high-technology enterprises in Nigeria has joint additive value relevance.

Vijitha and Nimalathasan (2014) also discovered that the value relevance of accounting information has a significant impact on share price and value relevance. Bosun-Fakunle, Adebayo, and Adediran (2015) evaluate the value relevance of accounting information of listed manufacturing businesses in the Nigerian Stock Market, utilizing a sample of thirty (30) manufacturing companies listed on the Nigerian Stock Exchange (NSE) from 2005 to 2014. According to the findings, earnings per share (EPS) has a considerable impact on share price, whereas book value per share (BVPS) and return on equity (ROE) are relatively correlated with the share price. Enofe, Asiriuwa, and Ashafoke (2014) explore the value relevance of accounting data in the Nigerian Stock Market to see if there is a relationship between accounting figures and share prices. The findings suggest that accounting information has the power to capture or summarize information that influences equity value, and that accounting numbers and share prices in the Nigerian Stock Exchange are related.

In recent years, however, several studies have been done that suggest the value relevance of accounting information has dwindled (Bankole and Ukolobi, 2020; Manisha, 2014). Bankole and Ukolobi (2020) investigated the value relevance of accounting information in Nigerian financial service companies listed on the Nigerian Stock Exchange from 2012 to 2018. They discovered that cash flow, dividend per share, earnings per share, the book value of shares, dividend per share, and share prices have a negative and insignificant link. They concluded that there is no value relevance between financial statement information and share price since cash flow, dividend per share, earnings per share, the book value of a share, and dividend per share stated in financial statements do not significantly influence share price.

Manisha (2014) examined the combined, individual, and incremental value relevance of accounting information supplied by enterprises listed on the S&P BSE-500 from 2006 to 2010 and how it changed over time. It was also discovered that the total value relevance of accounting information represented by earnings per share and book value per share has decreased, but the incremental value relevance of accounting information has changed insignificantly.

Because there is no consensus in the literature on the value significance of accounting information on share price, and because specific accounting information might have a significant effect, one might wonder about the genuine position in the Nigerian stock exchange. Because shares are traded constantly in Nigeria, it is critical to evaluate the relative importance of the elements that influence share price and value. Furthermore, previous studies have only looked at earnings and book value to explain share price behavior, but this study looks at intangible asset values on balance sheets to explain share price behavior from 2010 to 2020, revealing a knowledge gap that needed this research. As a result, evaluating the value relevance, particularly in light of recent developments in the economic and accounting environment, is an important subject to investigate.

2.4 Hypothesis Development

To strengthen the firm's competitive position and ensure their future viability, firms must invest in two aspects of intangible assets, namely, innovation and adaptation capabilities (Human resources and Development); and customer attraction (brands and relationship building: advertising, marketing, distribution, and promotional activities) (Lev and Daum, 2004). Stock prices are influenced by intangible assets. As a result, we propose that the following hypothesis be tested:

H_0: There is no significant relationship between accounting numbers and share prices of the companies listed on the Nigerian Stock Market

3. Methodology

To evaluate the aggregate Nigerian accounting information, this study focuses on 16 companies registered on the Nigerian Stock Exchange over ten years from 2010 to 2020. The data set comprises companies that have made a large investment in brand-building operations (marketing and promotional activities) and have also submitted comprehensive financial statements for the years studied. Due to a lack of adequate data, the study was restricted to 16 companies.

The analysis uses annual panel secondary data from 2010 to 2020. The model is based on a modified Edward-Bell-Ohlson (1995) model that includes earnings per share, dividends per share, and intangible assets per share (adaptation capabilities and customer attraction expenses) to obtain empirical results for the study. Research and development, and advertising expenses, according to Core et al. (2003), are investments in intangible assets. The following is the model:

$SP_{it} = \beta_o + \beta_1 DPS_{it} + \beta_2 EPS_{it} + \beta_3 BA_{it} + £_i$ …………………………………………… 1

Where:

SP_{it} = share price for firm i at the end of year t

EPS_{it}= earnings per share for firm i at the end of year t

DPS_{it} = dividends per share for firm i at the end of year t

BA_{it}= Branded asset for firm i at the end of year t

£ = error term (part of the share price which is not interpreted by the model)

βo = the intercept

β1… β3= represent the coefficients of explanatory variable

The study uses the Levin, Lin, and Chu (2002) and the Im-Pesaran-Shin (2003) unit root tests to establish the order of integration of the variables within the model to empirically examine the aforementioned functional form. The Levin, Lin, and Chu (2002) unit test assumes that all cross-sections have the same autoregressive parameter, whereas the Im-Pesaran-Shin (2003) test assumes that all cross-sections have a different autoregressive parameter. The Kao residual cointegration test would be used to confirm the presence of a long-run relationship between the variables in the model, and the model would then be estimated using Pesaran, Shin, and Smith's Pooled Mean Group (PMG) estimation technique (1999). The PMG estimator is an intermediate estimator that allows for differences in intercepts, short-run coefficients, and error variances between groups without requiring homogeneity in long-run coefficients (Kang, 2006). When all variables in the model have the same order and various orders of integration, such as I(0) or I(1) series, or a combination of I(0) and I(1) series, PMG can be used.

4. Result and Discussion

The table below shows the simple descriptive statistic of the variables in the model.

Table 4.1: Descriptive Statistics of the Variables

	SP	**EPS**	**DPS**	**BA**
Mean	7.566137	10.38021	-36.48449	22.17256
Median	0.070500	307.0000	5.329620	90.33415
Maximum	3178.097	16447.95	6204.582	7353.000
Minimum	-3522.816	-143400.5	-8474.532	-8697.692
Std. Dev.	802.9633	11762.68	1617.996	2315.410
Skewness	-0.027263	-11.38148	-1.118047	-0.348080
Kurtosis	6.680354	139.8957	10.86114	5.511000

Observations	160	160	160	160

Source: Authors' Computation (2021)

The variables' stationarity qualities are then tested in the next step of the analysis. To establish the order of integration of the variables within the model, the Levin, Lin, and Chu (2002) and Im-Pesaran-Shin (2003) unit root tests were used. Table 4.2 below shows the outcomes. All of the variables are stationary at level, according to the findings of the two-unit root tests used.

Tabe 4.2: Panel Unit Root Test Result

Variables	*Levin et al*		*Order of Integration*	*Variables*	*Im et al*		*Order of Integration*
	Levels	**First Diff.**			**Levels**	**First Diff.**	
SP	-3.92545**	-	I(0)	SP	-3.27393**	-	I(0)
EPS	-5.19212**	-	I(0)	EPS	-3.83817**	-	I(0)
DPS	-2.44840**	-	I(0)	DPS	-1.97491**	-	I(0)
BA	-7.90023**	-	I(0)	BA	-5.33608**	-	I(0)

Source: Authors' Computation, 2021

Notes: Values reported are t-statistics value.
**** denote significance 5 percent**.

The test was conducted with the assumption of intercept and no trend in both Levin et al (2002) and Im et al (2003) specification

Table 4.2 shows that all variables are integrated at levels (I(0)) based on the results of both unit root tests. The panel cointegration test is used on a data sample to determine if the model has a long-term relationship.

In this study, the Kao cointegration test is utilized to estimate the long-term relationship between the variables. Table 4.3 reveals that the ADF t-statistics probability value is less than a 5% level of significance, indicating that the variables in the model have a long-run relationship. As a result, the null hypothesis is rejected, indicating the presence of a long-term relationship.

Table 4.3: Kao Residual Cointegration Test Result

ADF t-statistic	*Probability*
-0.389852	0.0321**

Source: Authors Computation, 2021
Note: Null Hypothesis: No cointegration.
** denotes significance at 5 percent

The Pooled Mean Group (PMG) estimator is used to examine the value relevance of accounting information in the Nigerian Stock Exchange since the model has a long-run relationship. Pesaran, Shin, and Smith advocate the PMG estimator (1999). The result of the PMG dynamic heterogeneous panel technique is shown in Table 4. The ideal lag length was determined by the Akaike information criterion to be ARDL (2, 1, 1, 1).

Table 4.4: PMG Regression Result

Dependent Variable: GDP	*PMG*
Convergence coefficient	-0.992525 (0.0000)**
Long-run Coefficients	
EPS	0.021917 (0.0000)**
DPS	-0.114962 (0.0004)**
BA	0.018759 (0.0000)**
Short-run coefficient	
Δ (SP(-1))	0.231297 (0.0221)

Δ (EPS)	0.036510 (0.6624)
Δ (DPS)	0.032470 (0.6133)
Δ (BA)	-0.172955 (0.1056)
Auxiliary Parameters	
Hausman Test	0.779296 (0.8544)
No. of Countries	16
No. of Obs	144

Source: Authors' Computation, 2021
Standard errors are in parenthesis.
t-statistics is in square bracket.
**denotes significance at 5 percent.

The probability values of the independent variables are all significant at the 5 percent level of significance in the long run. Earnings per share with a co-efficient of 0.021917 shows that an increase in the earnings per share would lead to an increase in the stock price of the selected companies, which indicates a positive relationship between stock price and earnings per share in the long run. Dividend per share with a co-efficient of- 0.11 shows that an increase in dividend per share would lead to a decrease in the stock price, which indicates a negative relationship between stock price and dividend per share. The coefficient of Brand asset (0.018) shows a significant and positive relationship between Brand asset and share price in the long run. This reveals that earning per share (EPS), Dividend per share (DPS), and brand asset (BA) significantly impact share price and affect the share prices of listed firms on the Nigerian stock exchange and thus value relevant to investors in Nigeria. This agrees with the findings of previous studies such as Ogbodo and Osisioma (2020); Ebeguki et al. (2016); Davies and Macfubara (2018); Enow and Brijlal (2016), they found that accounting information is relevant in the Nigerian stock exchange. In the short run, Earnings per share, dividend per share, and Brand assets have insignificant impacts on share prices and are therefore not relevant in determining the prices of shares in the Nigerian stock exchange.

The Hausman test result is eligible at the 5% level of significance, indicating that we are unable to reject the null hypothesis of long-run homogeneity, which implies that the nations in the model have a long-run homogenous relationship. The application of the PMG approach is supported by the Hausman test result. For our chosen PMG model, the convergence coefficient, which reflects the error correction term, has the expected negative sign and is significant at 5%. The average value of the convergence coefficient is -0.992525, according to the results.

5. Conclusion

This study sought to ascertain the value-relevance of accounting information in the Nigerian stock exchange. This study utilizes pooled mean group estimator in estimating the companies in the data set. The Kao cointegration results established the presence of a long-run relationship between the independent variables and dependent variables in the study period. The results also drew attention to the significant impact of earnings per share, dividend per share, and brand assets (intangible assets) on share prices in the total sample. Evidence arising from this study shows that accounting information is relevant in the Nigerian stock exchange in the long run. This agrees with the inputs-to-equity valuation theory that states that accounting information provides information on inputs to valuation models that investors use to value enterprises. Managers must not overlook the significance of intangible assets, as reported intangible assets influence investors' opinions of a company's value. This is because investors can examine the impact of goodwill and other intangible assets on companies in their industry to satisfy investor preferences.

The study, therefore, recommends that companies should ensure full disclosure of all financial information related to their operations, especially information relating to their sales revenue and assets. Also, we recommend that companies should diligently follow the International Financial Reporting Standards in the preparation and presentation of their financial statements. Those who set national accounting standards and preparers of accounting information should work toward improving the quality of earnings information in Nigeria for investment decision purposes. Manipulative earning management should also be strongly discouraged. It is recommended that policymakers increase the source credibility of intangibles by developing better accounting standards for including internally generated intangible assets.

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