

## VALUE RELEVANCE OF SUSTAINABILITY REPORTING BY NON-FINANCIAL LISTED FIRMS IN NIGERIA

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### **Abstract**

*The Nigerian Exchange Group (NGX) issued Sustainability Reporting Guidelines in 2018 which requires that listed firms provide sustainability report, in their annual reports or as a standalone report, from 2019. The purpose is to provide additional information to assist investors in investment decisions. This study investigated the value relevance of sustainability reporting by non-financial listed firms on NGX from 2016 to 2020. All the 97 non-financial listed firms on NGX form the population for the study and sample consists of 30 most capitalised firms, proportionally selected from the 7 sectors of the non-financial firms on NGX. Content analysis and panel least square was used as methods of data analysis. Results show that sustainability reporting quantity disclosure has an insignificant negative effect (-0.01) on share price, while sustainability quality disclosure has an insignificant positive effect (0.07) on share price. It was recommended that the regulatory authorities, the Nigerian Financial Reporting Council and the NGX in addition to making sustainability reporting mandatory should enforce the assurance of the report by qualified professionals.*

**Key words:** Agency theory, Information asymmetry, Legitimacy, Signaling theory, Sustainability reporting quality, Sustainability reporting quantity, Value relevance.

### **1.0 Introduction**

Sustainability, sustainable development and sustainability reporting have become a global issue since sustainable management of the earth's resources has come into focus from the 1987 Brundtland report, which established the need for businesses to operate sustainably to be able to, apart from meeting their need for profitability, provide for the need of the future generations. Since then, several organisations (Global Reporting Initiative, Sustainability Accounting Standards Board, Climate Disclosure Standards Board, etc.) provided guidelines for reporting sustainability issues. Recently, however, there has been a call for global sustainability reporting standards provider to provide standards that would be useful across jurisdictions and industries globally. The purpose is to provide standards that makes sustainability reports across jurisdictions comparable

and useful for investors' decisions. This call has prompted the Trustees of the International Federation of Accountants (IFAC) to establish the International Sustainability Standards Board (ISSB), just like the International Financial Reporting Standards Board (IFRS), to produce sustainability reporting standards to guide companies internationally in producing sustainability reporting. ISSB has currently issued two standards, IFRS S1 – General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 – Climate-related Financial Disclosures.

Many jurisdictions, especially the developed countries, have made sustainability reporting by listed firm compulsory. Many international financing corporations have also emphasised the requirement for sustainable business practices as a pre-condition for investing in firms. This means that the report on sustainability practices is valuable information to investors and other stakeholders. This probably necessitated the Nigerian Exchange (NGX) to issue Sustainability Reporting Guidelines in 2018 and requires all listed companies to start incorporating sustainability report in their annual corporate report or as a stand – alone report from 2019. This made the NGX become one of the stock exchanges, like the South African Stock Exchange, that require listed firms to incorporate sustainability reporting in their annual reports.

Value relevance is the ability of financial statements information to capture and summarise information that determines the firm's value (Beisland, 2008). One of the main objectives of financial reporting is the provision of relevant formation for investors to enable them to make informed investment decisions, such as evaluating firm's value. The goal of value relevant studies is to empirically test if this objective is achieved, and whether accounting numbers provide investors with information to determine the company's equity price. Value relevance, therefore, is the ability of financial statements information to capture and summarise information that determines the firm's value (Beisland, 2008).

Studies on accounting value relevance are mostly carried out to test the decision usefulness of the accounting information. The decision usefulness approach to financial reporting is done by providing relevant information and full disclosure. However, financial statements do not capture all the information required by investors. Therefore, managers need to convey signals to investors about 'good information', normally referred to as non-financial information, to assist them in using financial information for investment decision making.

Sustainability reporting by firms enables stakeholders to have access to more information about the company at a lower cost, thus increasing their ability to predict the company's future income, which would be reflected in the company's share price (Song, 2015). Under the efficient market hypothesis, it has been noted that voluntary

disclosures, such as sustainability reporting, affect equity prices equally for all market participants (Kim et al, 2014).

Empirical studies on value relevance of CSR or sustainability reporting have been mostly from the developed countries with few studies from the developing countries. And there are mixed results from those studies. Some studies have found a positive effect of CSR information on share prices (Johnston et al, 2008; Clarkson et al, 2013; Bernard & Stark, 2018; Alotaibi & Hussainey, 2016; Setyahuni1 & Handayani, 2020; Halimah et al, 2020, Alotaibi & Hussainey, 2016). While other scholars have found a negative effect on market value (Hassel et al, 2005; Moneva & Cuellar, 2009; Johnston, 2005; Nguyen, 2020). In Nigeria, studies on the impact of sustainability disclosure quantity and quality on firm value before and since NSE made sustainability reporting a requirement for listed companies and the Nigerian Financial Reporting Council (FRC) mandated listed firms to include sustainability policy in their annual report from 2019 are scanty, if at all there is any.

The aim of this study, therefore, is to determine the effect of sustainability quantity and quality disclosures on the share price of non-financial listed firms in Nigeria from 2016 to 2020. The remaining part of the study is structured as follows: section two deals with the literature review; the third section deals with the methodology adopted for the study; section four is on data analysis and results; while the final section deals with conclusion and recommendations.

## **2.0 Literature review**

### **2.1 Theoretical framework and hypotheses development**

Sustainable investing is gaining momentum and reporting on sustainability has been considered a valuable information to the investing public by the Nigerian Exchange (NGX), hence the request that listed firms incorporate sustainability reporting in their annual reports or submit a standalone sustainability report, from 2019. The importance of the information disclosed by companies for investment decisions of investors is tremendous, as highlighted in signaling theory (Elfeky & Nasiri, 2017). Signaling theory assumes that access to information by companies' stakeholders is inconsistent with that of the management (Ratnatunga & Alam, 2011). Hence, information disclosed, including sustainability policies and practices of the company will help stakeholders, especially the investors, in their investment decision process (Agle et al, 2008). By providing additional information to the external stakeholders, companies aim to refer to the quality and real value of companies, as suggested by signaling theory (Healy & Palepu, 2001). It also provides a signal that helps financial analysts to predict firms' earnings, assess their performance and provide financial market customers with reports about firms' quality and value (Lang et al, 2004).

It has been documented by previous studies (Sutopo et al, 2018; Loh et al, 2017; Kuzey and Uyar, 2017; Lourenco et al, 2014) that sustainability disclosure is useful for investors in making investment decisions. In the same vein, Barth et al (2001), suggested that

sustainability reporting has a relevant value because it can make a difference in users' decisions.

Du et al (2017) submitted that sustainability disclosure can reduce information asymmetry between the manager and investors by communicating relevant disclosures to increase information transparency and enable investors to integrate sustainability information in share valuation.

Therefore, based on signaling theory and information asymmetry of agency theory, we proposed the following hypothesis:

H<sub>1</sub>: Sustainability reporting quantity has statistically significant effect on share price of non-financial listed firms in Nigeria.

Agency and legitimacy theories suggest that sustainability reporting quality would help investors in the valuation of firms' stock prices. As propounded in agency theory, information asymmetry problems between the corporate managers and stock market participants will be reduced through the production of quality information, such as sustainability reports, by corporate managers. Therefore, a firm's value could be increased because of quality sustainability disclosure, either through reduction in cost of capital or increasing the cash flow to shareholders because of reduction in agency monitoring cost, or both (Elzahar et al, 2015). Jo & Harjoto (2014), agency theory states that asymmetry of information between management and the owners'/shareholders increases agency costs. However, disclosure of information, such as sustainability practices, will ensure that agency problems are reduced, and therefore, agency costs are also reduced.

Sustainability disclosure is one of the means by which firms influence societal perceptions in their operating environment, thus increasing community acceptance which will enable firms to improve their financial performance, which will in turn increase the liquidity of their shares, thus positively affect their market value. When firms are perceived by stakeholders to be meeting with social contract with society, the firms will be given legitimacy to operate and then they will be able to achieve their objectives, which will in turn increase the firms' value. Hasseldine et al (2005) posited that the quality of CSR is more informative for UK companies' reputation. In their study, Zahler et al (2015) found that investors perceived that organisational legitimacy is higher for firms with higher quality of CSR disclosure. Therefore, it is assumed that quality sustainability disclosures by firms will reduce information asymmetry and signals to the market participants the firms' future performance, thus affecting future share prices (Aerts et al, 2008). It is equally assumed that quality sustainability disclosures will provide firms with legitimacy to operate, as predicted by legitimacy theory. Hence, we assumed that sustainability disclosure quality would positively affect firms share prices, therefore, it is hypothesised as follows:

H<sub>2</sub>: Sustainability reporting quality has statistically significant effect on share price of

## non-financial listed firms in Nigeria

### **2.2 Empirical review of Sustainability reporting and value relevance**

Various studies linking sustainability reporting with firm value have been conducted. Nguyen (2020) explored the association between sustainability reporting and firm value. He used 97 large, German listed firms as sample for the study, which covered a period of 5 years, from 2013 to 2017, given 485 observations. The firms' sustainability disclosure performance was collected from the Global Reporting Initiative (GRI) database. To examine the relationship between firm value and sustainability reporting based on the GRI guideline, the Ohlson model was used. Multiple Regression model analysis was applied to test the relationship between the firms' value and sustainability reporting. Results indicate a significant negative relation between firm value and a firm's GRI level of sustainability reporting.

Rahman et al (2020) examined whether sustainability disclosures are associated with value relevance in Bangladesh. A sample of 30 banks was used for the study which covers a period of nine years, from 2009 to 2017, given 485 firm years. Earnings management was employed as a moderating variable. Content analysis was used to examine the extent of sustainability disclosures, based on the GRI guidelines. The Ohlson price model and discretionary accruals were used as measures of value relevance of sustainability disclosure and EM, respectively. Findings show that sustainability reports have a positive effect on the equity value, whereas EM negatively moderates the direction of this association.

Zraqat (2019) studied the level of the sustainability practices disclosure of Jordanian commercial banks listed on the Amman Stock Exchange, and their value relevance. He used 13 Jordanian commercial banks as sample for the study which covers the period from 2008 to 2019. Stock prices and stock returns were used as the dependent variables to measure value relevance, while the level of sustainability practices disclosure was used as independent variable. Results show that investors positively appreciate the disclosure of the sustainability practices of Jordanian commercial banks listed on the ASE.

Jadoon et al (2020) examined the impact of corporate sustainability reporting quality on value relevance. They employed panel data of 247 firms from 2012 to 2016 for the best 30 green capital markets ranked by the Global Green Economy Index, across 21 countries. Findings indicate that investors value corporate sustainability performance (achieved through social, economic, and corporate governance dimensions only) and the quality of sustainability reporting. However, the environmental dimension of corporate sustainability reporting lacks financial materiality for investors. Also, they found that the quality of sustainability reporting plays an instrumental role in the value relevance of the corporate governance dimension because it is perceived as an alternative corporate governance mechanism by investors.

Halimah et al (2020) investigated whether information content on sustainability reporting has a significant association with listed companies' share price. They further assessed the differential effect of sustainability reporting adoption in the context of

mandatory and voluntary sustainability disclosure in developing countries, particularly in Malaysia and Indonesia. A sample of 43 firms in Indonesia and 57 firms in Malaysia was used for the study. Data for the study was obtained from Thomson Reuters Datastream and regression model was used for the analysis. Findings show that information on sustainability reporting has a significant association with the firm's price and therefore, value relevant. Also, results show that sustainability reporting's value relevance is more robust in the Malaysian stock market than in the Indonesian stock market.

Nechita (2021) examined the extent to which the disclosure of non-financial information related to sustainable development in the contents of sustainability reports published by companies listed on the regulated market of the Bucharest Stock Exchange (BSE) is value relevant. A sample of 34 companies listed on BSE between 2015-2019, giving 166 firm-year observations was used for the study. Method of analysis used is multiple linear regression models, based on the Ohlson (1995) model. Findings show an increase in relevance in terms of the influence exerted on the market value of capital as a result of reporting on sustainability issues.

Khaghaany et al (2019) explored the value relevance of sustainability reporting practices using a sample of Iraqi tourism companies listed in Iraq Stock Exchange involving 52 firm year observations from 2013 to 2018. The study investigated whether sustainability information disclosed by the tourism companies add to the value of annual reports data. Two market indicators were used, share price and traded shares. Results show that sustainability reporting was value relevant for the change in share price of the sample tourism companies, and there was a significant positive correlation between sustainability reporting and share price. However, when compared with the traded shares, results show insignificant correlation between sustainability reporting and traded shares.

Amedu et al (2019) examined value relevance of sustainability reporting of manufacturing firms in Nigeria. The sample comprised of thirty companies randomly selected from the Nigerian Stock Exchange. Secondary data collected from annual reports of the companies for the period 2010-2018 was used for the study. Panel data regression technique was used for the analysis. The results revealed that economic-sustainability and social sustainability reporting of quoted manufacturing companies were value relevant.

### **3.0 Methodology**

The aim of the study was to investigate whether sustainability reporting is value relevant to investors' decisions. The population for the study comprises of ninety-seven non-financial listed firms active on the Nigerian Exchange (NGX) from 2016 to 2020. The non-financial listed firms are grouped under seven sectors: basic materials, 10; consumer goods, 25; consumer services, 14; health care, 7; industrial, 21; information technology, 9; and oil and gas, 11. For this study, multi-stage purposive sampling technique was used to proportionally select the most capitalised 30 non-financial firms with up-to-date

financial records with the NGX from each of the 7 non-financial sectors on the NGX list as of December 2020.

Data on sustainability disclosures was collected from the corporate annual reports and standalone sustainability reports of the 30 sampled firms. Data on earnings per share (EPS), book value per share (BVS) and leverage (LEV) were collected from the annual reports of the sampled firms, while data on share prices (SP) were collected from the NGX.

Content analysis was used to determine the level of the quantity and quality of sustainability reporting disclosures by non-financial listed firms in Nigeria covering the period of five years, 2016 to 2020. The tool used for coding tool consists of 90 indicators, constructed from the Global Reporting Initiative (GRI) 2016 standards. Coding of sustainability disclosure was carried out from a quantitative and qualitative point of view. For sustainability reporting quantity, coding process involved a dichotomous recording of the presence or absence of disclosure under each indicator. The presence of each item of disclosure was checked in the companies' annual corporate reports or/and standalone sustainability reports. A score of 0 (absence) or 1 (presence) was assigned accordingly to each item of disclosure.

The quality of sustainability report was determined using a six-point (0 – 5) scale, based on previous studies ((Aggarwal & Singh, 2019; Nobanee & Ellili 2015). A score of 0 is awarded when a particular indicator was not disclosed and a score of between 1 and 5 was awarded for each indicator disclosed, based on the level and depth of disclosure. The scores obtained by each company were expressed in percentage of the total scored obtainable if all the indicators are disclosed appropriately. Higher scores reflect a better ability of the company to communicate with its stakeholders transparently.

### **Regression model**

Panel Least Square (PLS) regression model was constructed to determine the extent to which sustainability reporting of non-financial listed firms in Nigeria is value relevant. The regression analysis, based on the modified Ohlson (1995) and Barth *et al* (2001) models were used. Following (Clarkson, *et al.*, 2004), the model was expanded to include leverage and size as control variables, they argued that environmental ratings are information incremental to those of accounting information.

The price model was used to assess the value relevance of the quantity and quality of sustainability reporting, based on the constructed index. To measure the dependent variable, this study used the average of the closing share prices for ten days after the date of announcement of the financial results at the end of the fiscal year of each sampled firm. Share prices represent expected future cash flows and, therefore, provide a more objective measure of a firm's financial performance. Earnings per share were measured by earnings before interest and taxes divided by number of shares outstanding.

Book value per share was calculated by dividing the book value of equity by the number of shares outstanding. Book value of equity is the product of the statement of financial position and is deemed value relevant because it provides information that can affect the value of equity. Leverage was measured by the ratio of total liabilities to the total assets of the firms, while size will be proxied by the logarithm of the total assets of the firms,

as opined by Cooper and Owen (2007), the bigger the company size, the higher the company's voluntary disclosure level and this argument is supported by Moneva and Ceullar (2009), who stated that company size can influence the value relevance of environmental information.

The regression model constructed to test the value relevance of sustainability reporting quantity and quality, using stock price as follows:

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 SRQT_{it} + \beta_6 SRQL_{it} +$$

$\mu_{it}$

Where:

$P_{it}$  = the dependent variable: Share price;

$\beta_0$  = Intercept;

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  = Parameter estimates that relate BVS, EPS, LEV, SIZ, SRQT and SRQL to the market value of the firm;

$\beta_1 BVS_{it}$  = Book value per share of firm  $i$  at year  $t$ ;

$\beta_2 EPS_{it}$  = Earnings per share of firm  $i$  at year  $t$ ;

$\beta_3 LEV_{it}$  = Ratio of total liabilities to total assets of firm  $i$  at year  $t$ ;

$\beta_4 SIZ_{it}$  = Logarithm of total assets of firm  $i$  at year  $t$ ;

$\beta_5 SRQT_{it}$  = Sustainability reporting quantity of firm  $i$  at year  $t$ ; and

$\beta_6 SRQL_{it}$  = Sustainability reporting quality of firm  $i$  at year  $t$ ;

$\mu_{it}$  = Error term

$i = 1, \dots, i$  firms in the sample; and

$t = 1, \dots, t$  years of observation.

Adopting Zuraida et al (2016), and Setyahuni and Handayani (2020), five regression models were used to test the value relevance of the quantity and quality of sustainability reporting in price model. Models two to five were used to assess the value relevance of the quantity and quality of each of the dimensions of sustainability reporting. Model one was used to analyse the value relevance of the quantity and quality of sustainability reporting in aggregate. The models were not put into a single regression due to serious multicollinearity as argued by Zuraida et al (2016).

The sustainability reporting quantity and quality were further broken into four dimensions of sustainability, based on the index constructed, using GRI (2016) standards, for the study as follows:

- Governance dimension;
- Economic dimension;
- Environmental dimension; and
- Social dimension.

This will lead to additional four regression models as follows:

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 GOT_{it} + \beta_6 GOL_{it} + \mu$$

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 ECT_{it} + \beta_6 ECL_{it} + \mu$$



$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 ENT_{it} + \beta_6 ENL_{it} + \mu$$

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 SOT_{it} + \beta_6 SOL_{it} + \mu$$

Where:

- GOT<sub>it</sub> = Governance dimension quantity of firm i at year t;
- ECT<sub>it</sub> = Economic dimension quantity of firm i at year t;
- ENT<sub>it</sub> = Environmental dimension quantity of firm i at year t;
- SOT<sub>it</sub> = Social dimension quantity of firm i at year t;
- GOL<sub>it</sub> = Governance dimension quality of firm i at year t;
- ECL<sub>it</sub> = Economic dimension quality of firm i at year t;
- ENL<sub>it</sub> = Environmental dimension quality of firm i at year t; and
- SOL<sub>it</sub> = Social dimension quality of firm i at year t.

The final regression models will then be as follows:

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 SRQT_{it} + \beta_6 SRQL_{it} + \mu \dots\dots 1$$

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 GOT_{it} + \beta_6 GOL_{it} + \mu \dots\dots\dots 2$$

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 ECT_{it} + \beta_6 ECL_{it} + \mu \dots\dots\dots 3$$

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 ENT_{it} + \beta_6 ENL_{it} + \mu \dots\dots\dots 4$$

$$P_{it} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 SIZ_{it} + \beta_5 SOT_{it} + \beta_6 SOL_{it} + \mu \dots\dots\dots 5$$

## 4.0 Data analysis and results

### 4.1 Data analysis

For robustness, two panel regression models were estimated, the first comprising only accounting information, without including sustainability quantity and quality reporting scores. While the second model includes sustainability reporting quantity and quality scores. The purpose, according to Jadoon *et al* (2020) and Endiana and Suryandari (2021), is to consider the extent sustainability reporting enhanced the coefficient of the accounting variables which are included in the basic accounting value relevance model. In addition, four regression models were estimated to consider the effect of each of the four dimensions of sustainability reporting (Governance, Economic, Environmental and Social) on the share price of listed non-financial listed firms in Nigeria.

The random effect and fixed effect models were estimated for each of the six regression models, the Hausman test results show that the fixed effect model is the appropriate model because the P-value of the test statistic is significant at less than 5% level of significance. The Diagnostics test of the first regression model, Panel 1 in Table 1, explore the effect of accounting variables on share price of listed non-financial firms in Nigeria. Table 1 reveals that the included variables explained 74.73% variation in the share price, while the adjusted R-squared (the explanatory powers of the independent

variables after including or excluding variables) is 67.54% and jointly, as shown by the F-statistic as well as the P-value, the included independent variables explain this variation at 5% level of significance. The Durbin – Watson statistic of 1.289407 shows that the model suffers from serial correlation of the first order.

**Table 1: Results of the Effect of Regression of Accounting Information value relevance without and with sustainability disclosures.**

Coefficient	Without sustainability disclosure	With sustainability quantity and quality disclosures
LBVS	-0.451*** (0.164) [-2.758]	-0.466*** (0.157) [-2.964]
LEPS	-0.047 (0.093) [-0.500]	-0.163* (0.096) [-1.697]
LEV	0.021** (0.009) [-2.362]	-0.023*** (0.009) [-2.720]
LSIZ	1.985*** (0.505) [3.930]	1.292** (0.535) [2.413]
SRQT	-	-0.011 (0.030) [-0.368]
SRQL	-	0.074 (0.044) [1.688]
C	-16.097*** (5.857) [-2749]	-8.762 (6.194) [-1.415]
R-squared	0.747276	0.771323
Adjusted R-squared	0.675381	0.701115
S.E. of regression	1.185723	1.137754
Sum squared resid	163.0889	147.5712
Log likelihood	-219.1153	-211.6165
F-statistic	10.39393	10.98626
Prob(F-statistic)	0.000000	0.000000
Mean dependent var	2.784540	2.784540
S.D. dependent var	2.081116	2.081116
Akaike info criterion	3.374870	3.301553
Schwarz criterion	4.057281	4.024105
Hannan-Quinn criter.	3.652112	3.595103
Durbin-Watson stat	1.289407	1.553982

\*\*\*, \*\*, and \* represent 1%, 5% and 10% respectively.

Figures in () and [] are the standard errors and t-statistics of the coefficients, respectively.

Source: Author's computation (2024)

Panel 2 on Table 1 shows the results when sustainability reporting quantity and quality were included in the second model with the accounting variables in the first model (panel 1, Table 1). The diagnostic test of this second regression model Panel 2 of Table 1, effect of sustainability reporting on share price of listed non-financial firms in Nigeria reveals that the included variables explained 77.13% variation in the share price, while the adjusted R-squared (the explanatory powers of the independent variables after including or excluding variables) is 70.11%. Jointly, as shown by the F-statistic as well as the P-value, the included independent variables explain this variation at 5% level of significance. The Durbin – Watson statistic of 1.553982 shows that the model is free from serial correlation of the first order.

When the two regression models, Panels 1 and 2, were compared, it is concluded that overall, sustainability reporting is a relevant information for investors’ decision making because when sustainability reporting quantity and quality were included in the models, it improved the reduction in share price as a result of the included independent variables from 16.10% to 8.76%. Also, the R squared improved from 74.72% to 77.13%, which shows that when sustainability reporting is included in the model, the regression model explains 77.13% of the variation as a result of the included independent variables, instead of 74.72% when sustainability reporting was not included in the regression model.

Table 2, consisting of 4 Panels shows the result of panel regression models when each of the four dimensions of sustainability reporting is substituted for SRQT and SRQL. Panel 1 shows the results of the regression model when the Governance dimension of sustainability reporting quantity and quality (GOT and GOL) were used to replace SRQT and SRQL in the model. Panel 2 shows the results of the regression model when the Economic dimension of sustainability reporting quantity and quality (ECT and ECL) were used to replace SRQT and SRQL in the model. Panel 3 shows the results of the regression model when the Environmental dimension of sustainability reporting quantity and quality (ENT and ENL) were used to replace SRQT and SRQL in the model. Panel 4 shows the results of the regression model when the Social dimension of sustainability reporting quantity and quality (SOT and SOL) were used to replace SRQT and SRQL in the model.

**Table 2: Results of the Effect of Value Relevance of Quantity and Quality of Sustainability Disclosures Dimensions**

Coefficient	With sustainability disclosures- Governance	With sustainability disclosures- Economic	With sustainability disclosures- Environmental	With sustainability disclosures- Social
LBVS	-0.472*** (0.157) [-3.012]	0.543*** (0.151) [-3.588]	-0.457*** (0.162) [-2.826]	-0.479*** (0.160) [-2.988]
LEPS	-0.161* (0.096) [-1.667]	-0.025 (0.096) [-0.265]	-0.044 (0.097) [-0.458]	-0.117 (0.094) [-1.238]
LEV	-0.022*** (0.008) [-2.616]	0.024*** (0.008) [-2.956]	-0.021** (0.009) [-2.410]	-0.024*** (0.009) [-2.727]
LSIZ	1.410*** (0.510)	1.305*** (0.486)	1.701** (0.517)	1.485*** (0.525)

	[2.764]	[2.686]	[3.288]	[2.828]
SRQT	0.018 (0.015) [1.180]	-0.057** (0.024) [-2.401]	-0.026** (0.013) [1.988]	-0.004 (0.013) [0.280]
SRQL	0.022 (0.015) [1.471]	0.141*** (0.030) [4.720]	-0.026 (0.025) [1.025]	0.059* (0.030) [1.959]
C	-10.362* (5.884) [-1.761]	-10.417* (5.507) [-1.892]	-13.096** (5.981) [-2.190]	-10.305* (6.102) [-1.689]
R-squared	0.774646	0.790425	0.757747	0.766243
Adjusted R-squared	0.705458	0.726081	0.683371	0.694476
S.E. of regression	1.129458	1.089199	1.171040	1.150321
Sum squared resid	145.4270	135.2444	156.3323	150.8491
Log likelihood	-210.5187	205.0744	-215.9419	-213.2641
F-statistic	11.19628	12.28448	10.18805	10.67676
Prob(F-statistic)	0.000000	0.000000	0.000000	0.000000
Mean dependent var	2.784540	2.784540	2.784540	2.784540
S.D. dependent var	2.081116	2.081116	2.081116	2.081116
Akaike info criterion	3.286916	3.214325	3.359225	3.323522
Schwarz criterion	4.009468	3.936877	4.081778	4.046074
Hannan-Quinn criter.	3.580466	3.507875	3.652776	3.617072
Durbin-Watson stat	1.594645	1.837289	1.403021	1.506542

\*\*\*, \*\*, and \* represent 1%, 5% and 10% respectively. Figures in () and [] are the standard errors and t-statistics of the coefficients, respectively

*Source: Author's computation (2023)*

Panel 1 on Table 2 shows the results when sustainability reporting Governance dimension quantity and quality are included in the regression model with the accounting variables in the basic model (Panel 1, Table 1). The diagnostic test of this regression model Panel 1 of Table 2, effect of sustainability reporting Governance dimension on share price of listed non-financial firms in Nigeria reveals that the included variables explained 77.46% variation in the share price, while the adjusted R-squared (the explanatory powers of the independent variables after including or excluding variables) is 70.55%. Jointly, as shown by the F-statistic as well as the P-value, the included independent variables explain this variation at 5% level of significance. The Durbin – Watson statistic of 1.594645 shows that the model is free from serial correlation of the first order.

Panel 2 on Table 2 shows the results when sustainability reporting Economic dimension quantity and quality are included in the regression model with the accounting variables

in the basic model (Panel 1, Table 1). The diagnostic test of this regression model Panel 2 of Table 2, effect of sustainability reporting Economic dimension on share price of listed non-financial firms in Nigeria reveals that the included variables explained 79.04% variation in the share price, while the adjusted R-squared (the explanatory powers of the independent variables after including or excluding variables) is 72.61%. Jointly, as shown by the F-statistic as well as the P-value, the included independent variables explain this variation at 5% level of significance. The Durbin – Watson statistic of 1.837289 shows that the model is free from serial correlation of the first order.

Panel 3 on Table 2 shows the results when sustainability reporting Environmental dimension quantity and quality are included in the regression model with the accounting variables in the basic model (Panel 1, Table 1). The diagnostic test of this regression model Panel 3 of Table 2, effect of sustainability reporting Environmental dimension on share price of listed non-financial firms in Nigeria reveals that the included variables explain 75.77% variation in the share price, while the adjusted R-squared (the explanatory powers of the independent variables after including or excluding variables) is 68.34%. Jointly, as shown by the F-statistic as well as the P-value, the included independent variables explain this variation at 5% level of significance. The Durbin – Watson statistic of 1.403021 shows that the model has a moderate serial correlation of the first order.

Panel 4 on Table 2 shows the results when sustainability reporting Social dimension quantity and quality are included in the regression model with the accounting variables in the basic model (Panel 1, Table 1). The diagnostic test of this regression model Panel 4 of Table 2, effect of sustainability reporting Social dimension on share price of listed non-financial firms in Nigeria reveals that the included variables explained 76.62% variation in the share price, while the adjusted R-squared (the explanatory powers of the independent variables after including or excluding variables) is 69.45%. Jointly, as shown by the F-statistic as well as the P-value, the included independent variables explain this variation at 5% level of significance. The Durbin – Watson statistic of 1.506542 shows that the model is free from serial correlation of the first order.

## 4.2 Discussion of Results

The hypotheses of the study state that “sustainability reporting quantity and quality disclosures have no significant effect on share price of non-financial listed firms in Nigeria”.

First, two panel regression models were run, Table 1, the first regression, Table 1, Panel 1, is to see to what extent accounting variables affect the share price of non-financial listed firms in Nigeria without inclusion of sustainability reporting quantity and quality disclosures. While the second panel regression model, Table 1, Panel 2, includes sustainability reporting quantity and quality disclosures. This is in accordance with Jadoon *et al* (2020) and Endianna and Suryandari (2021).

Results from the first regression model, Table 1, Panel 1 reveal that book value per share (BVS) has a negative significant effect on share price, as 1% increase in BVS will lead to a reduction of 0.45% in share price, which is found significant at 5% significance level. Also, earnings per share (EPS) is found to have a negative but insignificant effect on the

share price, a 1% increase in EPS will result in a reduction of 0.05% in share price. This is not found to be statistically significant. This is, however, contrary to the findings of Raham et al (2020) and Halimah et al (2020) that found BVS and EPS having a significant positive effect on share price. For the control variables, leverage (LEV) and size (SIZ) are found to have positive significant effect on the share price. A 1% increase in LEV and SIZ will increase share price by 0.02% and 1.99% respectively. The results are found statistically significant at 5% significance level.

Results from the second regression model, Table 1, panel 2, which includes sustainability quantity and quality disclosures reveal that BVS has a negative significant effect on share price, as 1% increase in BVS will reduce share price by 0.47%, which is statistically significant at 5% level of confidence. When this result is compared with result from the first regression model, Table 1, Panel 1, it is discovered that the rate at which BVS affects share price has slightly increased from -0.45% to -0.47%. This is as a result of introducing sustainability reporting quantity and quality disclosure into the model.

EPS is found to have a significant negative effect on share price as well, a 1% increase in EPS will result in a reduction of 0.16% in share price, which is found statistically significant at 10% confidence level. When this result is compared with the result obtained in the first model, Table 1, Panel 1, the extent to which EPS affects share price has increased from -0.05%, which is not statistically significant, to -0.16%, which is statistically significant at 10% confidence level, as a result of inclusion of sustainability reporting quantity and quality disclosure in the model.

LEV is found to have a significant, but negative effect on share price, a 1% increase in LEV resulted in reduction of 0.02% in share price, which is statistically significant at 5% confidence level. When this result is compared with the result obtained in the first regression model, Table 1, Panel 1, the extent to which LEV affects share price has changed from 0.02%, significant at 5% confidence level to -0.2%, statistically significant at 5% confidence level as a result of inclusion of sustainability reporting quantity and quality disclosure in the model.

SIZ is found to have a significant positive effect on share price, a 1% increase in SIZ will lead to 1.29% increase in share price, which is statistically significant at 5% confidence level. When this result is compared with the result obtained in the first model, Table 1, Panel 1, the extent to which SIZ affects share price has reduced from 1.99%, which is statistically significant at 5% confidence level to 1.29%, which is now statistically significant at 5% confidence level.

Sustainability reporting quantity (SRQT) disclosure is found to have an insignificant negative effect on share price, a 1% increase in SRQT will lead to a reduction of 0.01% in share price. Whereas sustainability reporting quality (SRQL) disclosure has an insignificant positive effect on share price, a 1% increase in SRQL will lead to an increase of 0.07% in share price. This shows that the quality of sustainability reporting has

generated a positive perception from the investors, and it is becoming useful information for investment decisions, as it may be sending signal to the market.

Overall, it is concluded that the impact of sustainability reporting on share price is still very blurring, which may be due to the current level reporting among listed firms, which also is as a result of its voluntary nature. However, sustainability reporting is gradually becoming useful information to the investors, judging from the little impact found from the study results.

Sustainability reporting was broken into its four dimensions, Governance, Economic, Environmental and Social, and regressed the quantity and quality disclosures for each dimension with accounting variables, the results are shown on Table 2, Panels 1 to 4.

Table 2, Panel 1, shows the results when Governance dimension is regressed with the accounting variables. Results show that BVS has a negative significant effect on share price, a 1% increase in BVS will lead to a reduction of 0.47% in share price, which is found to be statistically significant at 5% confidence level. EPS is found to have a significant negative effect on share price, a 1% increase in EPS will lead to a reduction in share price by 0.16%, which is statistically significant at 10% confidence level. LEV also have a significant negative effect on share price, a 1% increase in LEV will result in 0.02% reduction in share price, which is significant at 5% confidence level. However, SIZ has a significant positive effect on share price, a 1% increase in SIZ will increase share price by 1.41% and this is found to be significant at 5% confidence level.

Sustainability reporting Governance dimension quantity (GOT) is found to have an insignificant positive relationship with share price, a 1% increase in GOT will lead to an increase of 0.02%. In the same way, sustainability reporting Governance dimension quality (GOL) disclosure has an insignificant positive effect on share price, a 1% increase in GOT will generate an increase of 0.02% in share price. This finding agrees with the findings of Emeka-Nwokeji et al (2019) and Jadon et al (2020) who found that the sustainability reporting governance dimension has a positive effect on share price.

Table 2, Panel 2, shows the results when Economic dimension is regressed with the accounting variables. Results show that BVS has a negative significant effect on share price, a 1% increase in BVS will lead to a reduction of 0.54% in share price, which is found to be statistically significant at 5% confidence level. EPS is found to have an insignificant negative effect on share price, a 1% increase in EPS will lead to a reduction in share price by 0.03%. LEV is found to have a significant negative effect on share price, a 1% increase in LEV will result in 0.02% reduction in share price. However, SIZ has a significant positive effect on share price, a 1% increase in SIZ will increase share price by 1.31% and this is found to be significant at 5% confidence level.

Sustainability reporting Economic dimension quantity (ECT) is found to have a significant negative relationship with share price, a 1% increase in ECT will lead to reduction of 0.06% in share price, which if found to be statistically significant at 5% confidence level. However, sustainability reporting Economic dimension quality (ECL) disclosure has a significant positive effect on share price, a 1% increase in ECL will generate an increase of 0.14% in share price, which is statistically significant at 5%

confidence level. This result is found contrary with the finding of Jadon et al (2020) who found that sustainability reporting Economic dimension have a positive effect on share price.

Table 2, Panel 3, shows the results when Environmental dimension is regressed with the accounting variables. Results show that BVS has a negative significant effect on share price, a 1% increase in BVS will lead to a reduction of 0.46% in share price, which is found to be statistically significant at 5% confidence level. EPS is found to have an insignificant negative effect on share price, a 1% increase in EPS will lead to a reduction in share price by 0.04%. LEV is found to have a significant negative effect on share price, a 1% increase in LEV will result in 0.02% reduction in share price, which is statistically significant at 5% confidence level. However, SIZ has a significant positive effect on share price, a 1% increase in SIZ will increase share price by 1.70% and this is found to be significant at 5% confidence level.

Sustainability reporting Environmental dimension quantity (ENT) is found to have a significant negative relationship with share price, a 1% increase in ENT will lead to reduction of 0.03% in share price, which if found to be statistically significant at 5% confidence level. Also, sustainability reporting Environmental dimension quality (ENL) disclosure has an insignificant negative effect on share price, a 1% increase in ENL will generate a reduction of 0.03% in share price. This result agrees with the finding of Emeka-Nwokeji et al (2019) who found that Environmental dimension of sustainability disclosure has a positive effect on share price. But it is contrary to the finding of Jadon et al (2020) that Environmental dimension has no effect on share price.

Table 2, Panel 4, shows the results when Social dimension is regressed with the accounting variables. Results show that BVS has a negative significant effect on share price, a 1% increase in BVS will lead to a reduction of 0.48% in share price, which is found to be statistically significant at 5% confidence level. EPS is found to have an insignificant negative effect on share price, a 1% increase in EPS will lead to a reduction in share price by 0.12%. LEV is found to have a significant negative effect on share price, a 1% increase in LEV will result in 0.02% reduction in share price, which is found statistically significant at 5% confidence level. However, SIZ has a significant positive effect on share price, a 1% increase in SIZ will increase share price by 1.49% and this is found to be statistically significant at 5% confidence level.

Sustainability reporting Social dimension quantity (SOT) is found to have no relationship with share price. However, sustainability reporting Social dimension quality (SOL) disclosure has a significant positive effect on share price, a 1% increase in SOL will generate an increase of 0.06% in share price, which is statistically significant at 10% confidence level. This agrees with the finding of Jadon et al (2020) and Setyahuni and Handayani (2020) who found that the Social dimension of sustainability reporting has a positive effect on share price. However, it is contrary to the finding of Emeka-Nwokeji et



al (2019) that found that the Social dimension of sustainability reporting has a negative effect on share price.

The overall results compare favourably with results obtained by Sebrina et al (2022), Haidar and Sohail (2021), Iswati (2020), Nguyen (2020), and Narullia et al (2019), but differ from the findings of Thompson et al, (2022), Echobu et al, (2022), Endiana and Suryandani (2021), Raham et al, (2020), Halimah et al, (2020), Setyahuni and Handayani (2020), Khaghany et al, (2019), Emeka-Nwokeji et al, (2019), Okpala and Iredele (2018) and Alotaibi and Hussain (2016).

## 5.0 Conclusion and recommendations

Sustainability reporting quantity disclosure was found to be insignificantly associated with the share price of the listed non-financial listed firms while sustainability reporting quality disclosure was found to be positively associated with the share price, though not significant, of the non-financial listed firms during the study period. This is an indication that quality of reporting is very important for investors' decisions. However, addition of sustainability reporting in the regression model shows that the explanatory power of accounting information for firm value increased.

The study recommends that regulatory authorities, i.e., the Financial Reporting Council of Nigeria and the Nigeria Exchange Group should, apart from making sustainability reporting mandatory, require an assurance of sustainability report by qualified professionals.

## References

- Aerts, W., D. Cormier & M. Magnan (2008), 'Corporate environmental disclosure, financial markets and the media: An international perspective'. *Ecological Economics*, 64(3), 643–59.
- Aggarwal, P. & Singh, A. J. (2019). CSR and sustainability reporting practices in India: an indepth content analysis of top-listed companies. *Social Responsibility Journal*, 15(8): 1033-1053. <https://doi.org/10.1108/SRJ-03-2018-0078>
- Agle, B. R., Donaldson, T., Freeman, R. E., Jensen, M. C., Mitchell, R. K. & Wood, D. J. (2008). Dialogue: Toward superior stakeholder theory. *Business Ethics Quarterly*, 18(2), 153-190. <https://doi.org/10.5840/%20beq200818214>.
- Alotaibi, K. & Hussainey, K. (2016). Quantity versus quality: The value relevance of CSR disclosure of Saudi companies. *Corporate Ownership and Control Journal*, 13(2), 167 – 179.
- Amedu, J. M., Iliemena, R. O. & Umaigba, F. T. (2019). Value relevance of sustainability reporting in Nigerian manufacturing companies. *Journal of Global Accounting*, 6(2), 131-147.
- Ansari, N., Cajias, M. & Bienert, S. (2015). The Value Contribution of Sustainability Reporting – An Empirical Evidence for Real Estate Companies. *ACRN Oxford Journal of Finance and Risk Perspectives*, Special Issue of *Social and Sustainable Finance*, 4(4), 190-205.
- Aras G, Tezcan N, & Kutlu Furtuna O. (2018). The value relevance of banking sector multidimensional corporate sustainability performance. *Corporate Social*

- Responsibility Environmental Management*, 2018, 1–12.  
<https://doi.org/10.1002/csr.1520>.
- Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 159-178.
- Barth, M. E., Beaver, W. H. & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: Another view. *Journal of Account Economics* 31, 77-104.
- Beaver, W. H. (1968). The information content of annual earnings announcements. *Journal of Accounting Research*, 6, 67–92.
- Beisland, L. A. (2008). Essays on the value relevance of accounting information. *Doctoral thesis in the Department of Accounting, Auditing and Law at the Norwegian School of Economics and Business Administration*. University of Agder: Bergen, Norway.
- Bernardi, C. & Stark, A, W. (2018). On the value relevance of information on environmental and social activities and performance – Some evidence from the UK stock market. *Journal of Accounting and Public Policy*, 37(4), 282–99.
- Ching, H. Y., Gerab, F. & Toste, T. H. (2017). The Quality of Sustainability Reports and Corporate Financial Performance: Evidence from Brazilian Listed Companies. *SAGE Open* 7(2),1-9. <https://doi.org/10.1177/2158244017712027>
- Chwistecka-Dudek, H. (2016). Corporate social responsibility: supporters vs. opponents of the concept. *Forum Scientiae Oeconomia*, 4, 171-180.
- Clarkson, P. M., Fang, X., Li, Y. & Richardson, G. (2013). The relevance of environmental disclosures: Are such disclosures incrementally informative? *Journal of Accounting and Public Policy*. 32(5), 410–431.  
<https://doi.org/10.1016/j.jaccpubpol.2013.06.008>
- Clarkson, P. M., Li, Y. & Richardson, G. D. (2004). The market valuation of environmental capital expenditure by pulp and paper companies. *Accounting Review*, 79(2), 329-353.
- Coopers, S. M. & Owen, D. L. (2007). Corporate social reporting and stakeholder accountability: The Missing Link. *Accounting Organisations and Society*, 32(7-8), 649-667.
- Du, S., Yu, K., Bhattacharya, C. B., & Sen, S. (2017). The Business Case for Sustainability Reporting: Evidence from Stock Market Reactions. *Journal of Public Policy & Marketing*, 36(2), 313–330.  
<https://doi.org.ezproxy.ugm.ac.id/10.1509/jppm.16.112>
- Echobu, J., Ekundayo, O. O. & Abu, S. O. (2022). Value Relevance of Sustainability Reporting in The Oil and Gas Sector In Nigeria. *International Journal of Accounting Research*, 7(1) 36-42.
- Elfeky M. I. & Nasiri A. (2017), The Determinants of Voluntary Disclosure in Emerging Markets: The Case of Egypt. *Journal of Poverty, Investment and Development*, 36, 1-12.

- Elzahar, H., Hussainey, K., Mazzi, F., & Tsalavoutas, I. (2015). Economic consequences of key performance indicators' disclosure quality. *International Review of Financial Analysis*, 39, 96-112.
- Emeka-Nwokeji, N.A., & Osisioma, B.C. (2019). Sustainability reporting and market value of firms in emerging economy: Evidence from Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 7(3), 1-19.
- Endiana, I. D. M. & Suryandari, N. N. A. (2021). Value Relevance of Sustainability Report: Evidence from Indonesia. *Jurnal Akuntansi dan Keuangan Indonesia*, 18(2), 168-182. <https://doi.org/10.21002/jaki.2021.09>
- Ezhilarasi, G. & Kabra, K. C. (2020). The value relevance of quantitative and qualitative environmental disclosure of polluting companies in India: a static and dynamic panel data evidence. *International Journal of Business Environment*, 11(2), 98-124.
- Gitahi J., Nasieku T. & Memba F. (2018). Corporate Social Responsibility Disclosure and the Value Relevance of Annual Reports for Listed Banks in Kenya. *European Scientific Journal*, 14(4). <https://doi.org/10.19044/esj.2018.v14n4p329>
- GRI- Global Reporting Initiative (2016). *Sustainability Reporting Standards*. <http://www.globalreporting.org>.
- Haidar, H. M., & Sohail, R. M. (2021). Sustainability Reporting (SR) Disclosure and Value Relevance on Listed Saudi Firms. *Open Journal of Business and Management*, 9, 1782-1804. <https://doi.org/10.4236/ojbm.2021.94097>
- Halimah, N. P. Irsyanti, A. & Aini, L. R. (2020). The Value Relevance of Sustainability Reporting: Comparison between Malaysia and Indonesia Stock Market. *The Indonesian Journal of Accounting Research*, 23(3), 447-466. <https://doi.org/10.33312/ijar.502>
- Hassel, L., Nilsson, H. & Nyquist, S. (2005). The value relevance of environmental performance, *European Accounting Review*, 14(1), 41-61. <https://doi.org/10.1080/0963818042000279722>
- Hasseldine, J., Salama, A., & Toms, J. (2005). Quantity versus quality: the impact of environmental disclosures on the reputation of UK Plcs. *The British Accounting Review*, 37(2), 231-248.
- Healy, P. M. & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1-3), 405-440. [https://doi.org/10.1016/S0165-4101\(01\)00018-0](https://doi.org/10.1016/S0165-4101(01)00018-0)
- Iswati, W. (2020). The Impact of Disclosure Sustainability Reporting, Influence Corporate Social Responsibilities Towards Corporate Value with Mediation of Financial Performance. *International Journal of Managerial Studies and Research*, 8(1), 1-16. <http://doi.org/10.20431/2349-0349.0801001>
- Jadoon I., A. Ali A., Ayub U., Tahir M. & Mumtaz R. (2020). The impact of sustainability reporting quality on the value relevance of corporate sustainability performance. *Sustainable Development*, 1–21. <https://doi.org/10.1002/sd.2138>

- Jo, H. & Harjoto, M. (2014). Analyst coverage, corporate social responsibility, and firm risk. *Business Ethics: A European Review*, 23(3), 272-292.  
<https://doi.org/10.1111/beer.12051>
- Johnston D. (2005). An investigation of regulatory and voluntary environmental capital expenditures. *Journal of Accounting and Public Policy*, 24(3), 175– 206.
- Johnston, D. M., Sefcik, S. E. & Soderstrom, N. S.(2008). The value relevance of greenhouse gas emissions allowances: An exploratory study in the related united states SO2 market. *European Accounting Review*, 17(4), 747–64.
- Khaghaany, M. Kbelah, S. & Almagtome, A. (2019). Value relevance of sustainability reporting under an accounting information system: Evidence from the tourism industry. *African Journal of Hospitality, Tourism and Leisure*, 8 (Special Edition CUT).
- Kim, Y., Li, H. & Li, S. (2014). Corporate social responsibility and stock price crash risk. *Journal of Banking & Finance*, 43, 1-13.  
<https://doi.org/10.1016/j.jbankfin.2014.02.013>
- Kuzey, C., & Uyar, A. (2017). Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. *Journal of cleaner production*, 143, 27-39.
- Lang, M., Lins, K.V. & Miller, D.P. (2004). Concentrated Control, Analyst Following and Valuation: Do Analysts Matter Most When Investors are Protected Least? *Journal of Accounting Research*, 42(3), 589-623.  
<https://doi.org/10.1111/j.1475-679X.2004.t01-1-00142.x>
- Loh, L., Thomas, T., & Wang, Y. (2017). Sustainability reporting and firm value: evidence from Singapore-listed companies. *Sustainability*, 9( 2112).
- Lourenço, C. I., Callen, J. L., Branco, M. C., & Curto, J. D. (2014). The value relevance of reputation for sustainability leadership. *Journal of Business Ethics*, 119, 17– 28.
- Meadows, D.H., Meadows, D.L., Randers, J. & Behrens\_III, W.W. (1972). *The limits to growth: A report for the Club of Rome's project on the predicament of mankind*. Universe Books.
- Moneva, J. M., & Cuellar, B. (2009). The value relevance of financial and non-financial environmental reporting. *Environmental and Resource Economics*, 44(3), 441-456.
- Narullia, D., Subekti, I., Azizah, N., & Purnamasari, F. (2019). Value relevance of corporate social responsibility disclosure on public companies in ASEAN countries. *3rd International Conference on Economics, Education, Business and Accounting. Indonesia: KnE Social Sciences*, 475-486.  
<https://doi.org/10.18502/kss.v3i11.4027>

- Nechita, E. (2021). The Value Relevance of Non-Financial Reporting in Determining the Market Value of Equity. *Audit Financiar*, XIX(162), 320-336. <https://doi.org/10.20869/AUDITF/2021/162/009>
- Nguyen, T. T. D. (2020). An Empirical Study on the Impact of Sustainability Reporting on Firm Value. *Journal of Competitiveness*, 12(3), 119–135. <https://doi.org/10.7441/joc.2020.03.07>
- Nobanee, H. & Ellili, N. (2015). Corporate sustainability disclosure in annual reports: Evidence from UAE banks: Islamic versus conventional. *Renewable and Sustainable Energy Reviews*, 55, 1336-1341. <http://dx.doi.org/10.1016/j.rser.2015.07.084>
- Ohlson, J. (1995). Earnings, book-values, and dividends in equity valuation. *Contemporary Accounting Research*, 11(11), 661–687.
- Okpala, O. P., & Iredele, O. O. (2018). Corporate social and environmental disclosures and market value of listed firms in Nigeria. *Copernican Journal of Finance & Accounting*, 7(3), 9–28. <http://doi.org/10.12775/CJFA.2018.013>
- Rahman, M., Rasid, S. Z. A. & Basiruddin, R. (2020). Moderating Effect of Earnings Management in the Relationship between Sustainability Reporting Initiatives and Value Relevance. *Indonesian Journal of Sustainability Accounting and Management*, 4(2), 266–277. <https://doi.org/10.28992/ijSAM.v4i2.309>
- Ratnatunga, J & Alam, M. (2011). Strategic governance and management accounting: evidence from a case study. *Abacus*, 47(3), 343-382. <https://doi.org/10.1111/j.1467-6281.2011.00344.x>
- Sebrina, N., Suhairi & Suhandi. (2022). Sustainability Reporting: Quality and Value Relevance. *Wahana Riset Akuntansi*.10(1), 69-83. <https://doi.org/10.24036/wra.v10i1.117304>
- Setyahuni, S. W. & Handayani, R. S. (2020). On the Value Relevance of Information on Environmental, Social, and Governance (ESG): An Evidence from Indonesia. *Journal of Critical Reviews*, 7(12), 50-58. <https://doi.org/10.31838/jcr.07.12.09>
- Song, L. (2015). Accounting disclosure, share price synchronicity and share crash risk an emerging-market perspective. *International Journal of Accounting & Information Management*, 23(4), 349-363. <https://doi.org/10.1108/IJAIM-02-2015-0007>
- Sutopo, B., Kot, S., Adiaty, A. K., & Ardila, L. N. (2018). Sustainability Reporting and value relevance of financial statements. *Sustainability*, 10(3), 678.
- Thompson, E.K., Ashimwe, O., Buerter, S. & Kim, S.-Y. (2022). The value relevance of sustainability reporting: does assurance and the type of assurer matter?, *Sustainability Accounting, Management and Policy Journal*, 13(4), 858-877. <https://doi.org/10.1108/SAMPJ-08-2021-0329>
- Truant, E., Corazza, L., & Scagnelli, S. D. (2017). Sustainability and Risk Disclosure: An Exploratory Study on Sustainability Reports. *Sustainability*, 9, 636-656.
- Tucker, J. W., & Zarowin, P. A. (2006). Does income smoothing improve earnings informativeness? *The Accounting Review*, 81(1), 251–270.

- Zahller, K., Arnold, V., & Roberts, R. W. (2015). Using CSR Disclosure Quality to Develop Social Resilience to Exogenous Shocks: A Test of Investor Perceptions. *Behavioural Research in Accounting*. 27(2):155-177. <https://doi.org/10.2308/bria-51118>
- Zraqat, O. M. F. (2019). Sustainability Practices Disclosure and Value Relevance: Evidence from Jordan. *Modern Applied Science*, 13(9): 75-86. <https://doi.org/10.5539/mas.v13n9p75>.
- Zuraida Z, Houqe N & Zijl T Van (2016). value relevance of environmental, social and governance disclosure. *Journal of International Accounting Research*, 2(4).