

Environmental Expenditure Disclosure, Corporate Social Responsibility and Accounting Information Quality

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This research examines the impact of environmental expenditure, environmental disclosure, and corporate social responsibility disclosure on the quality of accounting information. The quality of accounting information provided by companies has been highly doubtful in recent years, hence this research aims to connect it to non-financial information comprising of, environmental cost and corporate social responsibility disclosures. The population of this research consists of manufacturing companies listed on the Indonesia Stock Exchange from 2016 to 2020. This research uses purposive sampling to obtain 105 samples. The double regression analysis method was used. The result shows that both environmental and corporate social responsibility disclosures increase the quality of accounting information, while environmental expenditure disclosures do not affect the quality of the accounting information. An environmental expenditure disclosure is one of the voluntary disclosures which are part of management accounting, so the stakeholders, including the investors, tend not to consider that information in their investment decision-making, since management accounting is used mostly by the internal management.

Keywords: *Environmental disclosure; corporate social responsibility disclosure; environmental expenditure; accounting information quality.*

1. INTRODUCTION

Information quality is one of the most important elements in financial reporting. Stakeholders use the information in financial reports to evaluate the performance of company and to make decisions. Investors benefit from high-quality accounting information this helps them make better investment decisions. There are several criteria which define the quality of accounting information. The fundamental qualities include relevance and faithful representation [1]. Other characteristics which can improve the accounting information's quality are comparability, verifiability, timeliness and understandability [2].

One of the most important criteria for information quality is relevance. The relevance of accounting information will influence the stakeholders' decision-making (Porter & Norton, 2007). A piece of information is relevant if it influence the users' economic decision-making. Information can have a predictive value if it can help users evaluate or assess past or future events [3]. The relevance of accounting information can be observed from the fluctuation share prices following the announcement of that information [4].

During their decision making, companies need to consider non-financial aspects [5], since financial information is not enough to assess future performance and firm value [6]. Financial information only conveys short-term information; hence it becomes more important to consider non-financial information. In this era of globalization, some non-financial information that is important for the stakeholders includes companies' environmental activities and their expenditure to prevent or treat any environmental damage caused by their operations [7].

Nowadays, society's concerns toward economical and environmental sustainability have sparked a trend which obliges companies to disclose their social responsibility activities [8]. Corporate social responsibility is a concept in which companies integrate social and environmental matters into their business operations, as well as involving their stakeholders [9]. The disclosure of corporate social responsibility is a form of communication in which a company explains the impact of its business on the surrounding social and environmental aspects and how the company treats the impact, which in turn builds internal and external credibility [10].

Agusti & Rahman [11] state that corporate social responsibility has a value relevance. This value relevance decreases when the company engages in earnings management [12]. Earnings management is a policy, used by management to attain certain objectives, and is usually to achieve the management's personal satisfaction and increase the firm's market value [13]. Brizolla & Klann [14] state that companies which spend more on environmental investment have lower levels of earnings management.

Companies which are involved in environmental initiatives, marked by high environmental expenditure and extensive CSR disclosures, are less likely to be involved in earnings management practices (Kim, Park, & Wier, 2011). They also have less incentive to undertake earnings manipulation (Litt, Sharma, & Sharma, 2014). This research aims to develop the study of Brizolla & Klann [14], which found that environmental expenditure and disclosure increase the accounting information's quality.

2. THEORY, CONCEPTUAL FRAMEWORK, HYPOTHESIS, AND RESEARCH METHOD

2.1 Literature Review

2.1.1 Legitimacy and stakeholder theory

Legitimacy theory states that society is considered whole regardless of separate individuals [15]. This theory emphasizes that companies need to strive continuously to ensure that companies operate in accordance with societal ties and norms [16].

The company's efforts to gain legitimacy from the community are generally carried out in the form of social responsibility activities and disclosure of information related to the impact of company operations on the environment [17].

Freeman defines stakeholders as all parties, both groups and individuals who influence and are affected by the achievement of company goals [18]. Stakeholder theory assumes that the establishment of a company requires the support of stakeholders, so companies need to consider the interests of stakeholders in all company activities [19].

The company has an obligation to convey information related to the company's operations that have a direct or indirect impact on stakeholders and stakeholders have the right to

receive such information. Thus it can be legitimized by the stakeholders.

2.2 Conceptual Framework

This research is based on the stakeholder theory and signaling theory. The stakeholder theory assumes that companies need support from their stakeholders to maintain their existence, hence companies need to consider their stakeholders' interests in all their activities [19]. The signaling theory stipulates that the purpose of disclosure is to obtain legitimacy from the stakeholders and give positive signals to the shareholders. Environmental expenditure disclosures and CSR disclosures can give positive signals by improving the relevance of the accounting information.

Companies allocate funds for environmental expenditure to fulfill their responsibility to protect the environment from the impact of their operations [20,21]. Information regarding environmental expenditure is used by management in their decision making [22]. Environmental expenditure can be calculated by comparing the costs incurred for environment-related CSR activities with after-tax net income [23]. Companies may obtain economic gains from environmental expenditure information by reducing their materials and waste, as well as lower penalties relating to environmental damage [24]. Environmental disclosures may also improve the company's image [25].

Based on the stakeholder theory, companies are required to share information regarding any of

their operations which have a direct or indirect impact toward the stakeholders. They do this to obtain support from the stakeholders. The legitimacy theory explains that support from the stakeholders can influence the sustainability of the business.

Studies in Indonesia relating to environmental practices and accounting information's quality have reported inconsistent findings. Some studies found that environmental practices, such as environmental expenditure, environmental disclosure and CSR disclosure increase the quality of the accounting information [14,26,27]. On the other hand, another study finds that environmental practices have no influence on the quality of the accounting information [28].

2.3 Hypothesis

Several Indonesian companies have disclosed their environmental cost expenditure. Aside from the disclosures required by law, voluntary disclosures have been undertaken by companies to improve their images and attract public attention [25]. Brizolla & Klann [14] and Pyo & Lee [26] found that environmental disclosures improve the quality of the accounting information through lower earnings management and increased value relevance. This finding is consistent with Setyahuni & Handayani [27] and Aureli et al., [29]. Companies which fulfill their environmental responsibilities produce higher quality reports. This will eventually benefit the stakeholders.

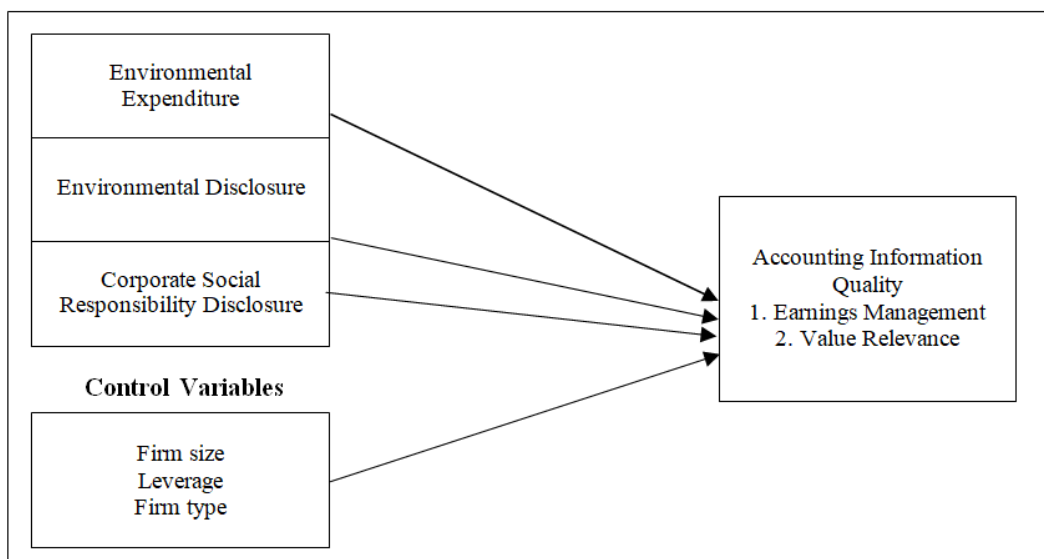


Image 1. Our conceptual framework is shown

Based on the explanation above, we propose the following hypotheses:

H1: Environmental costs negatively impact earnings management.

H2: Environmental information disclosures positively impact earnings value relevance and book value.

Corporate social responsibility (CSR) disclosures provide information regarding corporate activities which have an impact on the community, environment, employees, consumers and energy usage of the company [30]. Companies perform and disclose their CSR activities to maintain their relationship with the stakeholders and obtain legitimacy from society.

Agusti & Rahman [11] and Narullia et al., [31] found that CSR disclosures have an impact on the quality of the accounting information through the fluctuation of share prices following the issuance of the disclosures. In contrast, Schmelzer [28] found that CSR disclosures do not cause fluctuation in share prices.

Based on the above explanation, we propose the following hypothesis:

H3: Corporate social responsibility disclosures positively impact value relevance and book value.

2.4 Research Method

This research examines the relationship between independent and dependent variables using the quantitative method. Manufacturing companies listed on the Indonesia Stock Exchange from

2016 to 2020 comprise the population in this research. GRI Standards were initially applied in 2016. The manufacturing sector has been chosen due to the nature of its operations, which produce waste and potentially harm the environment. The samples were chosen by a purposive sampling method using several criteria.

Hypothesis testing using multiple regression, with the following equation:

$$\text{Model 1: } Y = \alpha + \beta_1ED + \beta_4\text{Size} + \beta_5LV + \beta_6\text{Type} + \varepsilon$$

Description:

Y = Earnings Management
 ED = Environmental Disclosure
 FZ = Size
 LV = Leverage
 Type = Type of industries

$$\text{Model 2: } Y = \alpha + \beta_1ED_t + \beta_2EPS_t + \beta_3BVPS_t + \beta_4CSR_t + \beta_5\text{Size} + \beta_6LV + \beta_7\text{Type} + \varepsilon$$

Description:

Y = Market Value for Equity
 EPS_t = Earnings per Share t
 BVPS_t = Book Value of Equity
 ED = Environmental Disclosure
 CSR_t = CSR Disclosure

2.4.1 Samples

The sample selection process is shown in Table 1.

Table 1. Sample selection

No.	Description	Number of Companies
1	Manufacturing companies listed on the Indonesia Stock Exchange from 2016 to 2020	181
2	Companies not issuing sustainability reports and/or annual reports during the research period	(3)
3	Companies with incomplete data related to environmental costs, environmental information disclosures, and CSR disclosures	(143)
4	Companies using foreign currency or operating at a loss	(14)
	Number of samples	21
	Number of observations during 2016-2020	105

2.4.2 Operationalization and measurement of variables

Environmental Costs: Environmental costs are measured by the amount disclosed in the CSR or sustainability reports using the following formula:

$$EC = \frac{\text{Environmental Costs}}{\text{Net income after tax}}$$

The index of environmental disclosure uses the following formula:

$$IED_j = \frac{\sum_{t=1}^{n_j} X_{ij}}{n_j}$$

CSR Disclosures: The CSR for each company is measured using the method developed by Amran [32]. The study measures corporate social disclosures by giving a score of 1 for disclosing companies and 0 for non-disclosing companies. The maximum score when a company discloses all the information is 10. A company's total score is divided by the maximum score to get the data ready to use for the research. This method is modified from the environmental disclosure index by Clarkson et al., 2008 and Sutantoputra, 2009.

Value relevance: The value relevance of accounting information is calculated using a formula from Ohlson [33] as follows:

$$MVE = \alpha + \beta_1 EPS_t + \beta_2 BVPS_t + \beta_3 ED_t + \beta_4 CSR D_t + \beta_5 FZ + \beta_6 LV + \beta_7 TP + \varepsilon$$

Earnings Management; The measurement of earnings management used in this research is the regression equation replicating the measurement of real earnings management through cash flows, by Roychowdhury [34].

Source: Brizolla & Klann [14]

$$\frac{CFO_t}{A_{t-1}} = \alpha + \beta_1 \left(\frac{1}{A_{t-1}}\right) + \beta_2 \left(\frac{S_t}{A_{t-1}}\right) + \beta_3 \left(\frac{\Delta S_t}{A_{t-1}}\right) + \varepsilon$$

Control Variables: This study uses three control variables, namely firm size, leverage and industry type. The size of the company can determine the level of ease of the company in obtaining funds from the capital market. Therefore, it can increase the market value.

$$\text{Company Size} = \text{Total Asset}$$

Leverage is an important component in measuring the effectiveness of the use of corporate debt [35]. The higher the leverage value of a company, the higher the company's financial risk caused by high debt to finance company activities.

$$\text{Debt to Total Assets (DTA)} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

The types of companies used in this study were identified in the study as follows:

1 = Consumer Goods Industry; 2 = Basic and Chemical Industry; and 3 = Various Industries.

3. RESULTS AND DISCUSSION

The result of this research is explained using descriptive statistics, the regression result, and a discussion.

3.1 Descriptive Statistics

The result of the descriptive statistics showed no significant deviation in the data. The data consisted of 105 observations. The classical assumption tests include a normality test which resulted in a significance of less than 0.05; model 1 had a significance of 0.059 while model 2 had 0.2. The multicollinearity test resulted in a tolerance value and variance inflation factor (VIF) of less than 0.10 or a VIF value less than 10, hence the data were free from multicollinearity.

The heteroscedasticity test in this research was conducted using the Glejser test; this regressed all the independent variables toward an absolute residual value of the model. The model could be considered free from heteroscedasticity if the significance of the F test was greater than 0.05. The testing resulted in the significance of model 1 and model 2 of 0.768 and 0.983, respectively. The autocorrelation test results in Asymp. Sig (2-tailed) of 0.817 for model 1 and 0.324 for model 2. These values were above the significance limit of 0.05, hence it was concluded that the residual values of both models were free from autocorrelation.

3.2 Hypothesis Testing

The hypothesis testing consisted of two models. Model 1 was used to examine the independent variables toward earnings management, while model 2 examined the independent variables toward value relevance. The results of the double regression testing are shown in Table 3.

Table 2. Descriptive statistics result

	N	Minimum	Maximum	Mean	Std.Deviation
Environmental Disclosure	105	0.06	0.62	0.190	0.123
Market Value for Equity	105	19.15	32.43	28.019	2.404
EPS	105	-2	38,596	610	3,769
Book Value per Share	105	-159.78	244,558	5,261	29,698
Firm Size	105	25.32	32.01	28.495	1.325
Leverage	105	0.00	16.95	0.949	1.990
Company Type	105	1	3	2.29	0.769
CSR Disclosure	105	0.20	1.00	0.716	0.163
Real Earnings Management	105	-0.62	0.28	0.047	0.103
Environmental Cost	105	0.00	1.15	0.027	0.121
Valid N (listwise)	105				

Table 3. Double regression testing

Model		Coefficient	Std. Error	t	Sig.
1	(Constant)	-0.397	0.227	-1.749	0.083
	Environmental Expenditure (X1)	-0.046	0.081	0.570	0.570
	Firm Size (FS)	-0.013	0.008	1,650	0.102
	Leverage (L)	-0.001	0.005	-0.242	0.809
	Company Type (TP)	0.027	0.013	2.008	**)0.047
2	(Constant)	21,126	1,282	16,483	0.000
	Environmental Disclosure (ED)	13,069	1,464	8,929	****)0.000
	EPS	0.001	0.000	-2,717	**)0.008
	BVPS	2,679	0.000	-14,520	****)0.000
	Firm Size	0.032	0.043	0.743	0.459
	Leverage	0.049	0.061	0.801	0.425
	Company Type	-0.139	0.068	-2,026	**)0.046
CSRD	5,980	0.746	8,013	****)0.000	

Notes:

****) Significant at 1%; Adjusted R2 of 0.057% and 0.52%

**) Significant at 5%; F test 0.042 and 0.00

) Significant at 10%

The results showed that the book value was one of the important aspects that investors consider in their decision making. Higher book value and earnings per share lead to a higher firm value. Book value is considered to be a benchmark for a safe plan for investing, where it could be a predictor of the lowest tolerable price of a stock [36].

Net income is another important piece of information that the investors consider. An increase in the net income of a company reflects the favorable performance of the company, which attracts the investors' attention. A high level of investment may increase the stock price and market value of the company. This result is consistent with Agusti & Rahman [11] and Brizolla & Klann [14] who all argue that book value and earnings per share have value relevance.

The control variables firm size, leverage, and company type did not affect the level of earnings management. This finding showed that the level of environmental expenditure did not reduce earnings management. This implied that environmental cost disclosures did not increase information quality.

Environmental expenditures incurred by a company tended not to have economic consequences, as they did not an effect on firm value. Companies tend to consider environmental costs to be a burden on them that lowers their income. A lower net income may negatively affect investors' intentions to invest in the companies, which in turn reduces their market value. Furthermore, environmental expenditures are part of the management accounting for internal users. This result contradicted the result of Brizolla and Klann [14],

who found that environmental costs affect the level of earnings management.

The result also showed that firm size, leverage and company type had a positive impact on value relevance and book value. This showed that environmental disclosures increase the value relevance of net income and book value (quality of accounting information). This result indicated that environmentally responsible companies, which voluntarily disclose environmental information, provide valuable information to the market.

The result of this research supports the findings of Brizolla and Klann [14] and Setyahuni and Handayani [27], who all found that environmental expenditure has a significant effect on value relevance. This result contradicted Qiu [37] who found that environmental expenditure has no effect on value relevance. Qiu [37] states that environmentally-sensitive sectors tend to have lower disclosure levels, to avoid potential problems with the stakeholders.

Firm size, leverage, and the type of company had a positive impact on value relevance and book value. This showed that CSR disclosures increased the relevance of income and book value. CSR disclosures may increase transparency and reduce information asymmetry, which in turn would increase the credibility of the company in the market.

This result was consistent with Agusti & Rahman, [11], Lako, [38] and Narullia et al., [31] who all found that corporate social responsibility disclosures had a significant impact on the value relevance of both net income and book value. A high level of CSR disclosure showed that a company was concerned about the impact of its operations on the surrounding economic, social, or environmental conditions.

This result contradicted Schmelzer [28], who found that CSR disclosures had no impact on value relevance. CSR disclosures are voluntary, but CSR activities are required under Law number 40 of 2007. This could lead to investors not considering CSR in their decision making, since all companies are equally required to perform CSR.

4. CONCLUSION

This research examines the impact of environmental expenditure, environmental

disclosures, and CSR disclosures on the quality of the accounting information of manufacturing companies listed on the Indonesia Stock Exchange from 2016 to 2020. The result shows that environmental expenditure disclosures do not decrease earnings management. Companies disclose this information to earn legitimacy from society and support from their stakeholders.

The level of disclosure increases the quality of the accounting information. This indicates that investors consider environmental information in their decision making. Hence, we conclude that environmental disclosures improve the quality of the accounting information.

Corporate social responsibility disclosures are found to increase the value relevance and book value. This indicates that investors take into account information regarding CSR activities in their decision making. Information regarding CSR activities reflects the responsibility and goodwill of a company toward its economic, social, and environmental surroundings.

The control variables firm size and leverage do not affect the quality of accounting information. However, the type of company increases the value relevance and the level of earnings management.

This research uses environmental expenditure as an independent variable. However, there are only a small number of companies which disclose their environmental expenditure explicitly. Hence, we consider CSR expenditure as environmental expenditure. There is an element of subjectivity in measuring the corporate social responsibility index. We recommend future studies to reduce the level of subjectivity by discussing this with other researchers who have previously studied corporate social responsibility disclosures.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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