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## Legitimacy Theory Perspective on the Quality of Carbon Emission Disclosure: Case Study on Manufacturing Companies in Indonesia Stock Exchange

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# Legitimacy Theory Perspective on the Quality of Carbon Emission Disclosure: Case Study on Manufacturing Companies in Indonesia Stock Exchange

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**Abstract.** Issues related to the green industry and environmental accounting are urgent to be formulated by the government. The concept of environmental accounting for companies encourages the ability to minimize environmental problems. Environmental accounting will produce a quantitative assessment of the costs and impacts of environmental protection. The purpose of this study is to describe the extent of disclosure of carbon emissions and to describe the legal regulations in Indonesia which regulate ecological disclosure. This study also examined the effect of the Environmental Performance Awards on the quality of environmental exposure. The samples are 35 companies engaged in mining, energy, chemistry, pharmaceuticals, cosmetics, food, and beverages that are listed on the Stock Exchange in 2012-2016. The data analysis method used is Ordinary Least Square (OLS). The result reveals that the practice of environmental disclosure at high profile companies on the Indonesia Stock Exchange is still low. This shows that the company's management awareness of environmental exposure does not comply with the Decree of the Chairperson of the Capital Market and Financial Institution Supervisory Agency Number: KEP-431/BL/2012 concerning Submission of the Annual Report. The results showed that the Environmental Performance Awards variable had a significant positive effect on the quality of environmental disclosure.

## 1. Introduction

From 2014 to 2015, energy consumption, particularly in the industrial sector, increased by 1.89% from 29.9% to 31.79%. This situation will keep increasing the intensity of emissions released into the earth's atmosphere and can have a devastating effect on human beings. There may be exertions to reduce the possible impacts that industry players should minimize energy use and disclose carbon emissions.

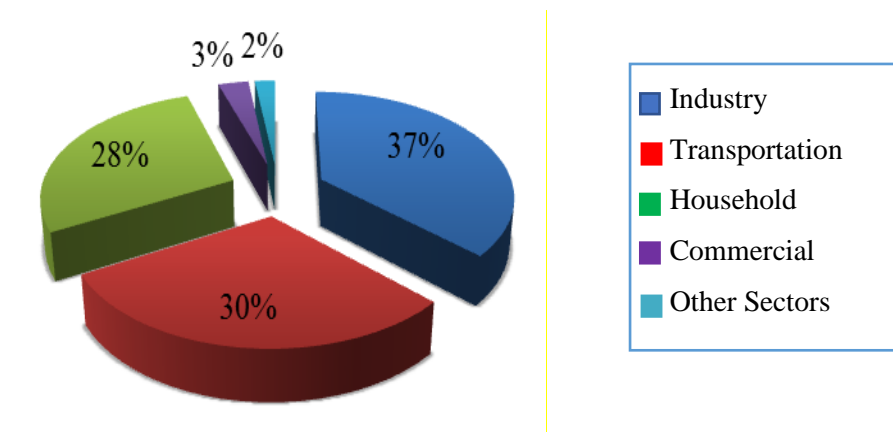
The Indonesian government has played an active role internationally regarding environmental management. Indonesia is one of 30 countries that are members of the Open Working Group (OWG) on Sustainable Development Goals (SDGs), where the SDGs themselves are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. The objectives of the SGDs have also been included in Indonesia's National Medium-Term Development Plan for 2015-2019. Indonesia's target on the planetary pillar or environment is to encourage



production and consumption of priority sectors sustainably, reduce CO<sub>2</sub> emissions by 26%, restore degraded ecosystems and manage waste to 150 million tons.

Carbon Emissions Disclosure, which becomes a current issue in many countries, is the environmental disclosure of carbon produced by the organizations from their industrial activities that have an impact on climate change during the life of the organization. It is a form of company contribution to environmental change, a priority regarding global expansion. Environmental Disclosure in PSAK No. 1 (revised 2019) in paragraph 14, where several companies present reports on the environment while environmental factors are significantly related to their industrial activities. In Indonesia, Carbon Emissions Disclosure is still voluntary disclosure, which is usually contained in annual reports and company sustainability reports. Because of their voluntary nature, not all companies in Indonesia disclose carbon emissions, although they belong to industries that are close to environmental damage.

Whereas the description of energy consumption in Indonesia is shown in figure 1, it can be seen that the most significant energy consumption is in the industrial sector. This research focuses on carbon emissions disclosure in the manufacturing industry listed in the Indonesia Stock Exchange, particularly in high profile companies that have a greater tendency of polluting the environment.



**Figure 1.** Energy consumption in Indonesia

## 2. Literature review

### 2.1. Legitimacy theory

Legitimacy theory is one of the most widely discussed methods to explain the phenomenon of voluntary social and environmental disclosure [1]. Legitimacy theory describes a social contract between a company and society. Shocker & Sethi told an essential concept in social arrangements, where the sustainability and growth of companies and businesses are based on two things, namely (1) the final results of the company can be socially given to the community, (2) the distribution of economic, social or political benefits to the group are in accordance with the power they have [2]. This means that the company's existence and survival depend on the social contract, which will generate legitimacy from the community.

Lindblom suggested that legitimacy is a condition or status that exists when the entity's value system matches the value system of a more extensive social network [3] in which a substance is a part of it [4]. Organizations attempt to establish harmony between the related social values or implied with organizational activities and norms of behavior that are acceptable in the more extensive social system, of which the organization is a part of it [5]. That means the company will adjust the company's values to the values available in the community in order to get legitimacy from the community.

Environmental disclosure is one of the information provided by a company as a form of accountability to the community regarding the environment. This can be a strategy to avoid legitimacy gaps or social and environmental conflicts resulting from company activities that cause damage to the environment.

### 2.2. *The influence of award towards the quality of environmental disclosure*

According to previous research, that award motivates companies to disclose the environment [4]. Companies that want to be awarded are encouraged to be more transparent in revealing. Open disclosure can meet the information needs of various interested parties. Legitimacy theory assumes the existence of a legitimacy gap in which company values are not in accordance with the values prevailing in the surrounding community since it can threaten the sustainability of the company. Communities can take actions that hinder the company's operations, such as reducing or eliminating the demand for company products; the supplier does not provide labor supply or financial capital, and so on. In line with Anas et al. [6], the award can overcome the legitimacy gap problem. The assumption is that a company that has been awarded means that the company has managed the environment well according to particular criteria. This can build the company's positive image in the eyes of the stakeholders.

Boesso & Kumar's [7] proved that the company's pressure on stakeholder management, as measured by the number of awards, significantly influences the volume and quality of voluntary disclosures. Research by Anas et al. [6] also found that the reward variable was significantly positively related to CSR disclosure practices. Based on the description, it can be assumed that an award has a positive effect on the quality of environmental disclosure.

## 3. Methodology

This study used *high profile companies* listed on the Indonesia Stock Exchange as the populations, which included companies engaged in the sectors of mining, energy, chemistry, pharmaceuticals, cosmetics, food, and beverages. This study uses a purposive sampling method with the criteria, as described in Table 1. This study only included companies that submitted sustainability reports on the Indonesia Stock Exchange website and the company's official website. Only companies that prepare financial statements in rupiah are examined in this paper.

**Table 1.** Sample determination criteria

Criterion	Total
High profile companies listed on the Indonesia Stock Exchange in 2012-2016	86
Companies that do not report social and environmental accountability	(26)
Companies that use Rupiah in their financial statements in 2012-2016	(24)
Companies that do not have complete data regarding the research variables	(1)
Total number of research samples	35
Total analysis units (35 x 5)	175

The quality of environmental disclosure is measured by the number of indicators of the quality of ecological exposure based on the instruments used by Rupley [8] and Solikhah & Winarsih [9]. The criteria consist of compliance, pollution prevention, product stewardship, and sustainable development

that the company discloses in its sustainability report or annual report. While the award variable is the award received by the company regarding environment in the previous year (t-1). The various awards categories consist of the Indonesia Sustainability Reporting Award (ISRA), the Sustainable and Responsible Investment (SRI KEHATI), and the Indonesian CSR Award (ICA), which were given to the company during 2011 - 2015. This variable is measured by adding up all the awards received, which first provide a value of 1 for "who received an award" and a value of 0 for "who did not receive an award." This study uses an ordinary least square (OLS) analysis tool to test hypotheses.

## 4. Results and discussions

### 4.1 Environmental disclosure practices by go public companies in Indonesia

The quality of environmental disclosure with the compliance indicator (Comp) has the lowest value of 0,000. This indicates that there were still companies that had not done environmental exposures at the level of compliance strategies or compliance with environmental-related regulations. There were 30 companies that did not disclose the agreement. Whereas the company that did the highest quality of environmental disclosure on the compliance indicator (Comp) was PT Aneka Tambang with a score of 38.

**Table 2.** Descriptive statistics

Indicator		Mean n = 175	Min	Max	Standard Deviation
Environmental Disclosure Quality Variable:					
Compliance	(Comp)	3.926	0.000	38.000	9.202
Pollution Prevention	(PP)	8.017	0.000	70.000	14.197
Product Stewardship	(PS)	15.143	2.000	66.000	14.582
Sustainable Development	(SD)	3.171	0.000	13.000	2.965

The quality of environmental disclosure on the compliance indicator (Comp) has an average value of 3.926 and a standard deviation value of 9,202. This indicates that the companies were not good at making an environmental disclosure based on the compliance indicator (Comp) since it has a maximum score of 54. A standard deviation value is higher than the average value indicates that the data is poorly distributed, meaning that there were companies that disclosed a lot, and there were companies that did not disclose at all.

The quality of environmental disclosure with pollution prevention (PP) indicators has the lowest value of 0,000. This shows that there were still companies that had not implemented pollution prevention (PP) strategies or pollution prevention as a form of environmental accountability to the community. Nine companies have not achieved the pollution prevention (PP) strategy from 2012 to 2016. The company with the highest value in applying the pollution prevention (PP) strategy was PT Tambang Batubara Bukit Asam with a score of 70.

The quality of environmental disclosure on pollution prevention (PP) indicators has an average value of 8.017 and a standard deviation value of 14.197. This indicates that few companies were doing environmental disclosure on the pollution prevention indicator (PP) since it has a maximum score of 159. Standard deviation values that are higher than the average value indicate that the deviation of data from the indicator was relatively large so that the range of data from the quality of environmental disclosure on pollution prevention (PP) indicators belonged to be reduced.

The quality of environmental disclosure with the product stewardship (PS) indicator has the lowest value of 2 and the highest value of 66. This means that companies implemented a product stewardship (PS) strategy or minimized costs by-product recycling. The company with the lowest product

stewardship (PS) level was PT Ades Akasha Wira International, and the highest one was PT Aneka Tambang. The quality of environmental disclosure on the product stewardship (PS) indicator has an average value of 15.143, with a standard deviation of 14.582. This indicates that few companies were doing environmental disclosure on the product stewardship (PS) indicator since it has a maximum score of 132. Standard deviation values that are smaller than the average value indicate that the deviation of the indicator data was relatively small so that the range of data from the quality of environmental disclosure on the product stewardship (PS) indicator belonged to be good.

The quality of environmental disclosure with sustainable development (SD) indicators has the lowest value of 0,000. This means that there were companies that had not achieved a viable development strategy in environmental disclosure. These companies include PT Bara Jaya International, PT Radiant Utama Interisco, PT Mitra EnergiPersada, PT Merck Indonesia, PT MustikaRatu, PT Tiga Pilar Sejahtera Food, PT Delta Djakarta, PT Mayora Indah, PT Prashida Aneka Niaga, PT SekarBumi and PT Ultrajaya Milk Industry and Trading Company. While, the company that conducted environmental disclosure on the highest sustainable development (SD) indicator of 13,000, was PT Timah Persero. Environmental exposure on the symbol of sustainable development (SD) has an average value of 3.171 and a standard deviation of 2.965. This indicates that few companies were meeting the sign of sustainable development (SD) in making environmental disclosure since this indicator has a maximum score of 13. The value of the standard deviation of the sustainable development (SD) indicator, which was lower than the average, indicates that the variation of data from the index is relatively small so that the range of data can belong to be good.

#### 4.2 *The regulations governing environmental accounting practices by going to public companies in Indonesia*

Decree of the Chairman of the Capital Market and Financial Institution Supervisory Agency Number: KEP-431 / BL / 2012 concerning Submission of Annual Reports of Issuers or Public Companies states that annual reports must contain an overview of critical financial data, descriptions of the board of commissioners, directors' reports, company profiles, analysis and discussion management, corporate governance, corporate social accountability, audited annual financial statements and statement of liability of the board of commissioners and directors for the veracity of the contents of the annual report. It indicates that the disclosure of social responsibility or referred to as the environmental disclosure report is mandatory.

Information in the annual report can be divided into two groups, which are mandatory disclosure and voluntary disclosure. Necessary disclosure is a disclosure that must be issued by the company under applicable regulations while the voluntary disclosure is a disclosure that can be added to the completeness of information in understanding the company's operations and shows the transparency of the company's actual state of users of financial statements [10].

#### 4.3 *The influence of award on quality of environmental disclosure*

**Table 3.** Ordinary least square test result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	16.152		9.604	.000***
	Award	52.563	.856	21.783	.000***

Dependent Variable: ED\_Quality  
\*\*\* significant at 1% level

The research hypothesis stating that the award has a positive impact on the quality of environmental disclosure was received. The results of testing with OLS produced a coefficient parameter value of 52.563 and a p-value of 0.000. It means that the more awards received in the previous year, the better the quality of environmental disclosure in the current year.

This condition was in accordance with legitimacy theory, that award will motivate companies to disclose a more transparent environment as transparent disclosures can meet the information needs of various interested parties. This can be seen in 2012, PT Aneka Tambang (ANTM) received three awards, and then, in 2013, total environmental disclosure increased from 164 items to 175 items. This study was in line with Anas et al. (2015) that an essential factor in influencing CSR disclosure was the award as the appreciation for doing CSR practices well. Companies that received awards for having good CSR practices had an incentive to disclose quality information related to CSR activities.

## 5. Conclusion

The practice of environmental disclosure at high profile companies listed in the Indonesia Stock Exchange is still low. This shows that the company's management awareness of the environment is not optimal. Decree of the Chairman of the Capital Market and Financial Institution Supervisory Agency Number: KEP-431 / BL / 2012 concerning Submission of Annual Reports of Issuers or Public Companies states that environmental disclosure is a report that must be made by the company. This finding is not yet in line with the theory of legitimacy. Legitimacy theory helps explain the motivation of companies to involve in environmental reporting. In many works of literature, legitimacy theory provides a basis for understanding how and why companies can use external reports to benefit themselves. Disclosure of the company's environmental performance has presented the response to public pressure, regulations, and external economic events. However, the results of the study showed that most companies still rarely disclose their environmental performance. Student t-test with OLS showed that the award given by the government and non-profit organizations engaged in the environment could encourage them to make environmental disclosure. Therefore, the prizes that have been given to companies that need to be maintained or even to be increased.

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## Appendix

**Residuals Statistics**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.1516	173.8413	30.2686	33.90067	175
Std. Predicted Value	-.416	4.235	.000	1.000	175
Standard Error of Predicted Value	1.682	6.771	2.003	.899	175
Adjusted Predicted Value	15.6527	176.3855	30.2626	33.91051	175
Residual	-41.27807	74.28517	.00000	20.46949	175
Std. Residual	-2.011	3.619	.000	.997	175
Stud. Residual	-2.060	3.643	.000	1.007	175
Deleted Residual	-43.31991	75.27168	.00599	20.88259	175
Stud. Deleted Residual	-2.080	3.780	.005	1.024	175
Mahal. Distance	.173	17.936	.994	2.598	175
Cook's Distance	.000	.220	.010	.032	175
Centered Leverage Value	.001	.103	.006	.015	175

a. Dependent Variable: ED\_Quality