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Environmental Performance of Financial Performance and Moderated Environmental Disclosure

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Abstract---*This study aims to examine the effect of environmental performance on financial performance moderated by environmental disclosures. The study uses the annual report data of companies engaged in the manufacturing sector, with the criteria for the report disclosing social and environmental information for the 2013-2015 periods and revealing the results of the assessment of the company's performance rating program in environmental management (called PROPER). The research method used in this study is explanatory research. Data analysis using the t-test and significance that was previously carried out the classical assumption test. Hypothesis answers show that environmental performance influences company profitability, environmental disclosure does not affect profitability, and environmental performance moderated by environmental disclosure influences profitability.*

Keywords---*Environmental Performance, Disclosure Performance, Financial Performance.*

I. INTRODUCTION

Profitability explains the company's ability to obtain net income from activities carried out by the company in a certain period. Whereas profit itself indicates the condition of a company's operational performance in a certain period while reflecting the company's performance in managing the company so as to be able to return excess capital to investors (Amelia & Nur, 2012).

The company's efforts to increase profits sometimes companies choose a short path by breaking the rules including ignoring environmental management which results in low environmental performance even though the impact is very significant on the survival of the company itself (Atkinson & Mourato, 2015).

The growing degradation of the natural environment is one of the main threats to human survival in the long run. Industrial companies should be responsible for this degradation and must be able to accept it to achieve what is called 'sustainable development' (Saudi, 2018). On the other hand, environmental management has the potential to play an important role in the company's financial performance. Many people argue that profitability is harmed by the higher production costs of these environmental management initiatives.

Research on environmental costs with profitability has been carried out by several experts, but in essence when policymakers decide to allocate environmental costs must be based on cost and benefit analysis, as explained by (Atkinson & Mourato, 2015) that decisions must be determined based on cost-benefit analysis.

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Financial theory discusses the relationship between a company's social performance and the company's financial profitability has several meanings. The first meaning, the performance of the company's financial profitability increases because there is an increase in investor reaction. While the second meaning of profitability decreases because the environmental burden affects the profit generated in the loading period.

Manufacturing companies using natural resources in their production activities can result in negative environmental impacts both in the short and long term. Companies that are listed on the IDX are required to carry out social responsibility (Republic of Indonesia Government Regulation No.47/2012).

The fact is that some manufacturers have experienced a decline in profitability of Kertas Basuki Rachmat Tbk, Merch Sharp Tbk, Polychem Tbk even though companies have environmental performance in the less obedient category according to the Company's Performance Rating Program in Environmental Management (term in Indonesia PROPER). The results of positive research with the above theory come from (Almar, Rachmawati, & Murni, 2012) concluded that there was an effect of disclosure of corporate social responsibility of cement companies with profitability as measured by Return on Assets and NPM. The results are there with research (Amelia & Nur, 2012)(Ingram & Frazier, 2013).

Different research results (Yisau, 2012) that there is an inverse relationship between company performance and environmental costs, interpreted that the more profit the company gets, the smaller the company invests in the responsibility of the company. The company in this study occurred in 110 companies in Nigeria (Yisau, 2012).

The urgency of this study is the controversy or results of research that differ from previous research and the needs of decision makers in responding to the phenomenon of the magnitude of environmental costs while being demanded to increase profits. Based on the background above, it can be identified the problem of whether there is an influence of environmental performance on financial performance which is moderated by environmental disclosures in manufacturing companies listed on the Stock Exchange for the period 2013-2015.

II. THEORETICAL FRAMEWORK

II.I. Environmental Performance

The company's attention to the environment is based on the idea that if companies continue to exploit the environment can cause difficulties in the future and experience obstacles to achieving prosperity and even threaten capital for the next generation (Arzizeh, Eyo Bassey, & Peter, 2012). Environmental costs can be seen from two perspectives, namely the perspective that environmental costs are recognized as costs because they are related to potential causes of environmental damage and are recognized as costs borne due to expenditures that have caused environmental damage that has been done ("OECD Glossary of Statistical Terms - Environmental costs Definition," 1997) defining environmental costs is the costs associated with actual damage or the potential of natural assets due to economic activities carried out by the company.

Environmental activities involve voluntarily from the company by involving social and environmental problems into the company's business operations as well as in interactions between stakeholders (Kartadjumena & Rodgers, 2019).

According to (Bartolomeo et al., 2010), environmental performance is the achievement of the company in managing the interaction between the activities of products and services of the company with the surrounding environment. The same thing as the definition of environmental performance according to (Suratno, Darsono, &Mutmainah, 2007) is the company's efforts to create a friendly/good environment. Environmental performance is the company's performance in creating a green environment (Titisari & Alviana, 2012). Based on the definitions of several authors above, it can be summarized that environmental performance is the end result of the company's efforts in maintaining its environment so that the company is in a state of no demands from external parties.

Environmental performance will be evaluated to see how far the organization's environment has been implemented and has met the criteria set by management, evaluation of environmental performance is an internal process and as a management tool created in order to provide reliable information and can be used as a basis for decision making. (Gonzã, 2005) citing environmental performance as a problem that must be managed specifically with the term environmental management. Furthermore, it can determine which aspects are considered the most

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significant which will be the focus of the company's attention in order to obtain the best predicate in the arena of CSR selection (Jasch, 2000). According to (Jasch, 2000) environmental assessment indicators have the following objectives:

1. Comparing financial performance from time to time;
2. Derivation and pursuit of environmental targets;
3. Identify market opportunities and reduce costs;
4. Evaluation of environmental performance between companies (benchmarking);
5. Communication tools for environmental reports;
6. An instrument of feedback for employee information and motivation;
7. Technical support from the Ministry of Environment regulations.

Environmental performance assessment can use several aspects and of course, each researcher has its own point of view, such as (Konar & Cohen, 2001) measure environmental performance by using the extent of the use of toxic chemicals and how much law demands due to environmental pollution. Environmental performance can also be evaluated by cost and benefit analysis, namely by means of contingency assessment methods and modelling techniques (Atkinson & Mourato, 2015).

II.II. Environmental Disclosure

In recent years, the company's attention to the environment has increasingly developed and experienced rapid growth. The company is very interested in reducing activities, eliminating waste produced during the production, use and/or disposal of company products. So that the concept of the Environment Management System (EMS) company appears, assuming that the company's ability to reduce waste can improve overall performance (Melnyk, Sroufe, & Calantone, 2003).

The presumption of some researchers is that environmental disclosures; (1) the benefits of reducing information asymmetry between managers and shareholders and in the costs of gathering information by shareholders (cost information), (2) costs of using environmental disclosures by other stakeholders rather than shareholders given the financial condition of the company (Cormier & Magnan, 1999).

Some researchers classify environmental disclosures into the Disclosure Index, reports on increasing environmental disclosure reporting over time (Carreira & Abreu, 2014).

Disclosure of social responsibility is a social consequence of company behaviour and most companies express it voluntarily and unaudited (Ingram & Frazier, 2013) so that disclosure has value then it must relate it to actual events. The quality of disclosures can be measured by assessing the relationship between (1) what the company identifies as its achievement and objectives and (2) the independent measure of actual performance.

(Nor, Bahari, Adnan, Kamal, & Ali, 2016) voluntary environmental disclosures to attract investors and to meet the interests of stakeholders. Environmental disclosures can be done by public companies or private companies. Information conveyed on environmental disclosures refers to the conditions of water, air, land, fauna, flora, land and natural sites and other activities that can affect the quality of resources including administrative and environmental management programs ((UNECE), n.d.). The determinants of the company's environmental reporting include information costs and the financial condition of the company besides the size of the company, the policy-making regime/ regulation, industry (Cormier & Magnan, 1999).

II.III. Financial Performance

The word performance is intended to show the success, conditions, and compliance of the company. Financial performance refers to the act of carrying out financial activities or the broader meaning is the extent to which financing is being and has been achieved. Financial performance explains the position of the company in its market if a high-profit margin means that the company has strong market power (Valentin, 2011).

Financial performance according to some experts is also called the company's economic performance. Financial performance can be seen with several financial performance measurement tools, such as those discussed in several financial performance references. (Titisari & Alviana, 2012) defining Economic performance is the achievement of the organization, namely financial management in generating profits and increasing the value of the company. (Titisari & Alviana, 2012) to measure financial performance using the company returns on assets (ROA).

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Research that connects environmental performance with financial performance based on research (Konar & Cohen, 2001) financial performance is measured by intangible assets. Operating earnings/ sales, asset age, asset turnover and excess value measures of financial performance from research (Cochran & Wood, 1984). While (Rachmawati & Sari, 2010) measure financial performance with ROA.

II.IV. Environmental Performance, Disclosure Environmental and Financial Performance

(Fitriani, 2013) concluded that environmental performance had an effect on financial performance, this research was conducted in BUMN companies 2004-2011. (Arzizeh *et al*., 2012) his research in Nigeria revealed that environmental costs are charged to income in separate accounts, the results of his research prove there is a relationship between environmental costs and profitability with a petroleum company research unit. Environmental activities in research (Amelia & Nur, 2012) grouped into welfare costs, community development costs and partnership costs. The three independent variables were able to explain the profitability variability of 19.6%. While the most dominant variable affecting profitability is the cost of community development.

(Yisau, 2012) shows that the variability of the company's financial performance is caused by changes in corporate social responsibility, with an allocation of 10% of the profits charged to social responsibility. Environmental performance influences financial performance (Titisari & Alviana, 2012), (Tjahjono, 2013). (Fitriani, 2013) concluded that the better the environmental performance, the investor will respond positively through the fluctuations in the company's stock price (Hussian et al., 2019).

Rigorous regulations often form the basis for reducing production costs and increasing customer satisfaction to drive long-term profitability, so that environmental investment is a solution to balance environmental needs and company needs to maintain profitability (Elsayed & Paton, 2005). Research on US public companies by (Konar & Cohen, 2001) Poor environmental performance has a negative influence on the value of intangible assets. The relationship between environmental performance and financial performance is not always significant, researchers need a long time to realize the influence of environmental performance in building financial performance (Horváthová, 2010). (Russo & Fouts, 1997) The company's concern for the environment provides opportunities for the company itself.

The link between environmental performance and environmental disclosure has also been done by (Clarkson, Li, Richardson, & Vasvari, 2008) that the positive relationship of environmental performance with the level of environmental disclosure, content analysis index based on Global Reporting Initiative sustainability reporting as a measure of disclosure performance in environmental and social accountability reports.

The Environmental Management System (EMS) is important for companies not only as a condition to meet ISO requirements but also as an effort to reduce and eliminate the waste and pollution created by the manufacturing, use and disposal of products. EMS integrates operations within the company, the presence of EMS is able to improve performance such as cost reduction, quality improvement, waste reduction and lead time reduction (Melnyk et al., 2003).

The relationship of environmental performance and financial performance is very influential in the largest 100 companies in the Malaysia Stock Exchange with financial performance indicators consisting of ROA, ROE, earnings per share (EPS) and profit margin (Nor et al., 2016). (Rachmawati & Sari, 2010) disclosure of social & environmental responsibility affects the company's financial performance.

III. RESEARCH METHODS

III.I. Subject, Object, Methods Research

The subject of this study is the reporting of companies engaged in the manufacturing sector, with the criteria of the report disclosing social and environmental information in the annual report during the period 2013-2015 and disclosing the results of the assessment program evaluation of the company's performance in environmental management (PROPER) during the period 2013-2015. Furthermore, the objects in this study are environmental

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performance (environmental performance), environmental disclosure (environmental disclosure) and profitability (profitability).

The research method used in this study is explanatory research, research that explains the relationship between two variables where one variable influences other variables(Cooper & Schindler, 2006).

III.II. Unit of Analysis, Sampling

(Sekaran & Bougie, 2010) unit of analysis can be in the form of individuals, couples, groups, divisions, industries, and countries. This study uses a unit of analysis of financial statements of manufacturing companies listed on the IDX period from 2013 to 2015.

The population of this study is a collection of financial statements of manufacturing companies that have gone public and reports on the results of PROPER assessment for the period of 2013 to 2015. The sampling technique in this study was using non-probability sampling, namely by purposive sampling technique. The criteria determined by the researcher in selecting samples in this study are:

1. Reports of manufacturing sector companies that have participated in the company's performance rating assessment program in environmental management (PROPER) for the 2013-2015 period.
2. Reports of manufacturing sector companies listed on the IDX, which disclose social and environmental information in annual reports during the 2013-2015 period.

Table 1: *List of Companies Becoming Research Sites.*

No	KODE	Company
1	JPRS	Jaya Pari Steel Tbk
2	ADMG	Polychem Indonesia Tbk
3	FASW	Fajar Surya Wisesa Tbk
4	NIKL	Pelat Timah Nusantara Tbk
5	SPMA	Suparma Tbk
6	VOKS	Voksel Electric Tbk
7	INDS	Indospring Tbk
8	MRAT	Mustika Ratu Tbk
9	BUDI	Budi Starch & Sweetener Tbk
10	IKBI	Sumi Indo Kabel Tbk
11	INKP	Indah Kiat Pulp & Paper Tbk
12	SMCB	Holcim Indonesia Tbk
13	INDF	Indofood Sukses Makmur Tbk
14	ADES	Akasha Wira International Tbk
15	KAEF	Kimia Farma Tbk
16	AMFG	Asahimas Flat Glass Tbk
17	GGRM	Gudang Garam Tbk
18	ICBP	Indofood CBP Sukses Makmur Tbk
19	INTP	Indocement Tunggal Prakasa Tbk
20	ULTJ	Ultrajaya Milk Industry and Trading Company Tbk
21	UNVR	Unilever Indonesia Tbk

Source:*("www.idx.co.id," n.d.).*

III.III. Operationalization of Variables

The operationalization of the variables used in this study is shown in Table 2, the independent variable namely environmental performance in this study was measured using the results of ranking in environmental management or PROPER for the period 2013-2015 conducted by the Ministry of Environment (KLH). Assessment criteria are made as follows:

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Table 2: *PROPERranking and score*

Ranking	Assessment Criteria	Score
Gold	More than obedience	5
Green	More than obedience	4
Blue	Obey	3
Red	Less obedient	2
Black	Disobedient	1

Source:("www.menlh.go.id," n.d.)

Non-independent variable, namely profitability, the indicator used is a measure of profitability, namely Return on assets (ROA) which describes the profits obtained by the company with its total assets. The ROA formula according to (Brigham & Houston, 2012):

Return on total assets (ROA) = Net income
Total assets

Environmental disclosure is a moderating variable, this variable is developed from the dimensions and indicators used by GRI-G4, resulting in 12 dimensions with 34 indicators. With the help of a checklist compiled based on these indicators, the author gives a score of 1 if there is disclosure and a score of 0 if there is no disclosure. The use of scores 0 and 1 is considered adequate and does not require a score ranging from 0 to 3 because the disclosure indicators used have separated qualitative and quantitative information. The number of actual scores in each unit of analysis is then divided by the number of ideal scores if all indicators are worth 1 (all indicators are disclosed) so that index data with scale ratio are obtained. Measurement of environmental disclosure items in this study was carried out with the following calculations:

Disclosure index = The number of items disclosure by the company
Number of environmental disclosure items

III.IV. Test of Classical Assumptions and Hypothesis Tests

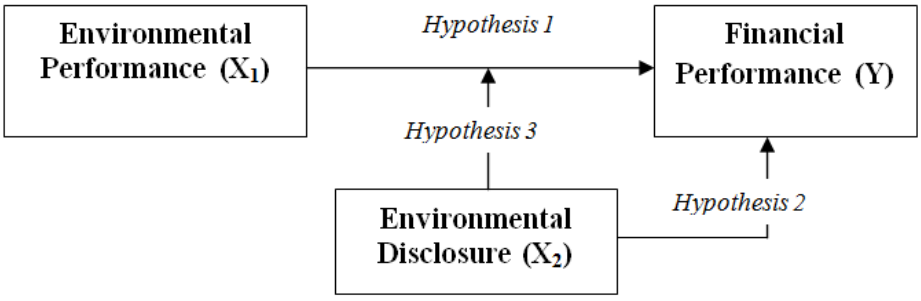
The normality test aims to test whether, in the regression model, the disturbing or residual variables have a normal distribution(Ghozali, 2006), used the Kolmogorov-Smirnov (K-S) test. data will be normally distributed if the significance is> 0.05, but if the significance is <0.05 then the data is not normally distributed(Ghozali, 2006).Variance Influence Factor (VIF) above the value of 10 or tolerance 0.01 (Ghozali, 2006)occurred multicollinearity.

III.IV.I. Heteroscedasticity, if the probability of the significance of the independent variable is above the 5% confidence level, then heteroscedasticity does not occur(Ghozali, 2006).

The Autocorrelation can be detected using the Durbin-Watson test, where the hypothesis to be tested is Ho: there is no autocorrelation (r = 0).

The coefficient of determination (R2) aims to measure how far the ability of the model to explain the variation of the dependent variable, a value close to 1 means that the independent variance gives almost all the information needed to predict the variance of the dependent variable(Ghozali, 2006).

Hypothesis testing uses t-test. If t count <t table, then Ho is accepted. The significance level is 0.05.



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IV. RESULT AND DISCUSSION

IV.I. Result

The results of the study will be explained by beginning with the results of the test of data quality, namely by using the classical assumption test. The first classic assumption test is the normality test, and the value is> 0.05. Second, the VIF correlation test is above the value of 10. The three heteroscedasticity tests are above the 5% confidence level. The classic assumption test is stated in accordance with the standard and will be continued by hypothesis testing and autocorrelation test.

The equation estimation of a simple linear regression model using IBM SPSS Statistics 20 software and obtained the following output:

Table 3:*The results of linear regression analysis of environmental performance on profitabilitywhich is moderated by environmental disclosures.*

Variabel	Koefisien	t	Prob.
(Constant)	-71,845	-7,001	,000
PROPER	25,012	7,350	,000
EDI	3,697	,732	,467
PROPER*EDI	-5,692	-5,578	,000

a. Dependent Variable: ROA.

Based on the unstandardized coefficients as presented in Table 3, a linear regression equation can be formed as follows:

$Y= -71,845 + 25,012\ X_1 + 3,697\ X_2 - 5,692\ X_1*X_2$

Information:

Y = Profitability (ROA)
X_1 = Environmental Performance(PROPER)
X_2 = EnvironmentalDisclosure (EDI)

The equation can be interpreted, the constant of -71.845% indicates that when there is no environmental performance, it does not make environmental disclosures. Environmental performance of 25,012 shows that every increase in environmental performance by 1 level is predicted to increase profitability by 25.012%. Environmental disclosure has a coefficient of 3.697, which means that every increase in the environmental disclosure index by 1 time (100%) is predicted to increase profitability by 3.697%.

Based on table 3 the test results are significantly smaller than 0.05, it was decided to reject (H0) Hypothesis 1 means that environmental performance has an effect on profitability in companies listed on the IDX. The results of this study find empirical evidence that companies with better environmental performance tend to have higher profitability.

The effect of environmental disclosure on the profitability of significance values greater than 0.05 was decided to accept H0 (hypothesis 2). Thus it can be concluded that environmental disclosure does not affect profitability in companies listed on the IDX.

The effect of moderated environmental performance on environmental disclosure on the profitability of significance values is close to zero, smaller than 0.05 rejecting H0 (hypothesis 3). This means that environmental performance moderated by environmental disclosure has an effect on profitability in companies listed on the IDX.

Furthermore, it will be calculated how much the variability of environmental performance moderated by environmental disclosures builds the profitability variability; the coefficient of determination value is obtained in the following table:

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Table 4:*The coefficient of determination of moderating environmental performanceEnvironmental disclosure of profitability*

Model	R Square	Adjusted R Square
1	,508	,483

a. Predictors: (Constant), PROPER*EDI, EDI, PROPER
b. Dependent Variable: ROA

Table 4 states that the coefficient of determination (Adjusted R Square) of 0.483 indicates that 48,3% of the variability of profitability is explained by environmental performance moderated by environmental disclosures.

IV.II. Discussion

Based on the unstandardized coefficients, it can be interpreted that when manufacturing companies registered with IDX and active in 2013-105 did not take measures to protect the environment and did not disclose their environment, the results of the study concluded that the manufacturing companies tended to suffer losses. This happens because the company does not fulfil social responsibility as mandated by the Republic of Indonesia Government Regulation No.47/2012 (PP RI No.47/ 2012).

The company does not have trust from the public, the products produced tend not to be attractive, sales decrease and of course, profitability will decrease.

Empirical from this study found the fact that any environmental protection measures by manufacturing companies can increase profitability by 25.012%. This data shows that companies with better environmental performance tend to have higher profitability. Whereas when the protection measures are disclosed in the Annual Report, profitability is 3.697%. This data shows that companies with more environmental disclosures tend to have higher profitability.

Increasing awareness of companies in protecting the environment has a positive impact on the company itself with increasing government confidence. Several manufacturing companies registered with IDX in the 2013-2015 periods received the Gold ranking according to the PROPER version. PT Holcim Indonesia received a Gold award for 3 years, namely 2013, 2014 and 2015. PT Holcim is considered capable of protecting the natural environment in several aspects, including; aspects of material, energy aspects, aspects of water, aspects of biodiversity, emission aspects, aspects of environmental and waste, aspects of products & services, aspects of compliance, aspects of transportation, aspects of supplier assessment of the environment and aspects of complaints mechanisms of environmental problems.

In 2015, 75% of the companies studied were categorized as obedient; there was an obligation to carry out social responsibility, especially in protecting the natural environment while 15% were in the less obedient category. Of course, guidance must be given to companies in the less obedient category by providing motivation and direction as well as socialization of benefits rather than doing social responsibility, which benefits will not only be felt by other people/ the surrounding community but also for the company itself.

Significance test and t-test were conducted to answer the predetermined hypothesis, environmental performance has an effect on profitability as well as environmental performance moderated by environmental disclosure has an effect on profitability in manufacturing companies listed on IDX in the period 2013-2015. However, when tested for environmental disclosures on profitability no significant evidence was found. The results of this study provide empirical evidence that companies with better environmental performance and more environmental disclosures tend to have lower profitability.

The test results of the coefficient of determination explain the variability of financial performance formed by the variability of environmental performance through environmental disclosure of 50.8%, this value belongs to the category of high influence (Hair, Hult, Ringle, & Sarstedt, 2014). It is interpreted that if the company wants good financial performance, one way is by optimizing the use of funds to improve environmental quality in terms of maintaining aspects of material, energy aspects, water aspects, aspects of biodiversity, emissions aspects, aspects of environmental and waste, product aspects & services, compliance aspects, transportation aspects, supplier assessment aspects of the environment and aspects of the complaints mechanism of environmental problems. Not

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only do social & environmental responsibility but also accompanied by the disclosure of all company actions related to social activities and safeguarding the environment both land, air and water.

The results of this study are in line with the results of the study (Yisau, 2012), (Suratno et al., 2007), (Nor et al., 2016), (Arzizeh et al., 2012). Environmental management in research (Gonzã, 2005) part of the effort to carry out social & environmental responsibility that can bring competitive opportunities for the company. Research (Aupperle & Carroll, 1985) by elaborating on social & environmental responsibility instruments with CEO's there is no evidence of a relationship between environmental responsibility and profitability, these results are contradictory. A neutral discovery was found in the article (Mcwilliams & Siegel, 2000) that social & environmental responsibility has a neutral impact on financial performance. The pros and cons of the results of research that link environmental performance and financial performance can have implications for further research with a broader unit of analysis, not only manufacturing companies can also be non-manufacturing companies.

V. CONCLUSION

Based on the results of the research carried out based on the theories studied and the discussions carried out in the previous chapters, the authors draw the conclusion that environmental performance affects profitability in companies listed on IDX and companies with better environmental performance tend to have more profitability high. Other results show that environmental disclosure does not affect profitability in companies listed on IDX and finally, environmental performance moderated by environmental disclosure has an effect on profitability in companies listed on IDX.

Environmental performance influences profitability as well as environmental performance moderated by environmental disclosure influences profitability in manufacturing companies listed on IDX in the period 2013-2015. However, when tested for environmental disclosures on profitability, no significant evidence was found. The results of this study provide empirical evidence that companies with better environmental performance and more environmental disclosures tend to have lower profitability.

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