CHAPTER IV

DATA ANALYSIS AND DISCUSSION

This chapter presents discussion on the data analysis and research findings about the relationship between environmental performance, environmental disclosure, and financial performance. Data analysis in this research is divided into analysis of descriptive statistics, classical assumption, and analysis of hypothesis testing. Multiple regression analysis was used to test hypotheses by using computer program of SPSS (Statistical Product and Service Solution).

4.1. Population and Research Sample

The total of hospitality industries that are used as samples in this research are 12 industries. There are several types of hospitality industries that are used as samples in this research namely hotels and hospitals. In detail, the sample selection process is as follows:

Table 4.1

Total Research Sample

No.	Data	Total
1	Total of hotel and hospital companies listed on IDX in 2012-	25
	2015	
2	Public company that is not registered as a member of	(13)
	PROPER	
3	Public company that participates in PROPER but does not	0

	publish annual report	
4	Total Sample	12
5	Period observed (year)	4
6	Number of observations	48

Source: Secondary data processed, 2016

4.2. Descriptive Statistic

the first step that researcher does in this research is to collect variable data of environmental disclosure and make a checklist to measure the environmental disclosure based on environmental performance indicator by Global Reporting Initiatives or GRI. Environmental performance according to GRI is reviewed from 12 aspects with 34 items that describes the environmental disclosure of those aspects. Environmental disclosure checklist is contained in fifth attachment of this research. Here are the results of descriptive statistics for each variable:

Table 4.2

	N	Minimum	Maximum	Mean	Std. Deviation
ROE (financial performance)	45	09	1.39	.2150	.29502
GRI (environmental disclosure)	48	.00	.24	.0600	.05425

Descriptive Statistics

PROPER (environemnetal performance)	45	2.00	3.00	2.6222	.49031
Valid N (listwise)	42				

Source: Secondary data process, 2016

Based on the table above, the average of environmental disclosure in 2015 were .0600 environmental disclosure items in their financial reporting. In the same year, most environmental disclosure items done by PT. Bukit Uluwatu Villa Tbk and PT. Surya Semesta Internusa Tbk with the total items that disclosed as many as 4 items (12%) out of 30 items in environmental disclosure. Meanwhile, in the same year there were companies that did not do environmental disclosure or the total items that disclosed in environmental disclosure is 0 (zero) which are PT. Sejahteraraya Anugrahjaya Tbk. PT. Siloam International Hospital Tbk, PT. MNC Land Tbk, PT. Patra Jasa, and PT. Widja Putra Karya. This is because various reasons. For PT. Sejahteraraya Anugrahjaya Tbk, PT. MNC Land Tbk, and PT. Patra Jasa, they did not publish the annual report for year 2015. On the other hand, PT. Siloam International Hospital Tbk and PT. Patra Jasa were not specific enough about their environmental disclosure to meet the indicators' standard.

The second step in data analysis is to collect company's financial data to measure financial performance variables. Benchmark used to measure financial performance is return on equity (ROE). Data concerning the research sample measured by financial performance can be found in second appendix of this study. Based on table 4.2, the average ROE in research sample of companies was .2150. The highest Return on equity (ROE) is PT. Sarana Meditama Metropolitan Tbk, namely 0.37, while the lowest ROE is PT. Hotel Sahid Raya International Tbk which is 0.01. However, for PT. Sejahteraraya Anugrahjaya Tbk, PT. MNC Land Tbk, and PT. Patra Jasa ROE are unknown because they did not publish their annual report for 2015 yet.

Return of equity (ROE) is a profitability ratio that measures the rate of return that would be obtained by shareholders' equity. The higher the ROE, the more efficient the use of company's capital to generate profits for shareholders. In contrast, the lower the ROE, the more inefficient management to gain benefits from capital invested.

The third step in analyzing the data is to measure the environmental performance of a company's achievement, which is incorporated in PROPER. Assessment scale for ranking results is (range 1-5). The criteria of gold (5), green (4), blue (3), red (2), and black (1). Data concerning the total research sample based on environmental performance, as follows:

Table 4.3

		2012		2013		2014		2015	
No.	PROPER Scale	total		total		total	1	total	
		sample	percentage	sample	percentage	sample	percentage	sample	percentage
1	Gold	0	0%	0	0%	0	0%	0	0%
2	Green	0	0%	0	0%	0	0%	0	0%
3	Blue	6	50%	7	58%	7	58%	8	67%
4	Red	4	33%	4	33%	5	42%	4	33%
5	Black	0	0%	0	0%	0	0%	0	0%
	noll	2	17%	1	8%	0	0%	0	0%

Descriptive Statistic of Environmental Performance

Source: Secondary Data Processed, 2016

From the table above, it can be seen that companies obtaining blue ranks increase every year. The blue rank indicates that a company has done environmental management that is required in accordance with regulations from the government, and has made makes efforts which will be useful for public interest in long-term. On the contrary, there is no hotel and hospital companies that obtain the gold and green rank. Its means that they do not implemented environmental performance well or the regulations from the government to non-manufacturing companies such as hotels and hospitals are not detailed enough. Meanwhile, null rank means that there are companies that have not participate yet in that year.

Figure 4.1

Percentage Diagram PROPER Scale



From the diagram above, it can be seen that 67% of the research sample are ranked Blue and 33% ranked Red. Rank Blue which is the largest indicates that the companies have done environmental management that is required in accordance with regulations from the government. The data of the research sample in diagram above based on environmental performance can be seen in third appendix of this research.

4.3 Classical Assumption

4.3.1 Normality Test

Normality test in this research uses P-plot test. Testing for normality can be detected by taking a look at the spread of the data (dots) on the diagonal axis of the normal graph. The basis to make a decision based on the graph is: if data spread around the diagonal line and follow the direction of the diagonal line, it means the regression model meets the assumption of normality and conversely. If the data is spread away from the diagonal line and / or does not follow the direction of the diagonal line, it means the regression model the assumption of normality. The result of P-Plot test can be seen as follows:



Source: Secondary data processed, 2016

Based on normality graph presented in the figure 4.1 (Normal P-Plot of Regression Standardized Residual), it can be seen that dots spread around the diagonal line, and its distribution follows the direction of the diagonal line, it indicates that the regression model is reasonable to be used because it meets the normality assumption.

4.3.2 Multicollinearity Test

Multicollinearity occurs when there is a linear relationship between the independent variables included in the regression model. Testing can be performed by analyzing the calculation of the value of tolerance and the Variance Inflating Factor (VIF). If the VIF value > 10 and tolerance values < 10%, then the regression model multicollinearity occurs, however, if the VIF value < 10 and tolerance values > 10% then there is no multicollinearity. The result of multicollinearity test can be seen in table 4.4 below.

Table 4.4

The Result of Multicollinearity Test

		Unstandardized Coefficients		Standardized Coefficients			Collinearity	Statistics
Model		В	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.415	.254		1.630	.111		
	GRI	-1.432	.868	256	-1.649	.107	.990	1.010
	PROPER	037	.095	060	389	.700	.990	1.010

Coefficients^a

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients			Collinearity	v Statistics
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	PROPER	037	.095	060	389	.700	.990	1.010

a. Dependent Variable: ROE

Source: Secondary data processed, 2016

Table 4.4 above shows that there is no multicoliinearity in all of independent variables used in the regression model. It can be shown from tolerance value > 0.1 for variable of Environmental disclosure (GRI) and also the value of VIF in all of independent variables < 10.



4.3.3 Heteroscedasticity Test

Heteroscedasticity test in this research is based on scatter plot. This test can be done by taking a look at the image plot between the predicted value of the independent variable (ZPRED) with residual (SRESID). Here is the base of testing to identify a certain pattern of dots or points on a scatter plot.

- If there is a particular pattern there are no dots to form an irregular pattern (wavy, widened, and narrowed), then there is heteroscedasticity.

If there is no clear pattern in the graph and the data are randomly distributed as well as the points spread above and below the number – on the Y axis, the there is no heteroscedasticity.
Based on test with SPSS, scatter plot graph obtained as follows:

Figure 4.3

The Result of Heteroscedasticity Test

Scatterplot



Source: Secondary data processed, 2016

Based on the scatter plot graph, the points spread at random can be seen do not form a specific clear pattern or regular, and the point spread above and below the 0 on the y-axis. Thereby it can be concluded that no symptoms of heterosdasticity in regression models.

4.3.4 Autocorrelation Test

Autocorrelation test is used to test whether there is a correlation in regression model between the disturbance mistakes in the t period and mistakes in t-1 period or not. The researcher used Durbin-Watson test to identify whether there is autocorrelation or not in the regression model. The result of Durbin-Watson test can be shown in table 4.5 below:

Table 4.5

The Result of Autocorrelation Test using Durbin-Watson Test

Model	Summa	arv ^ø
		·· .

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.268 ^a	.072	.024	.29838	2.097

a. Predictors: (Constant), PROPER, GRI

b. Dependent Variable: ROE

Source: Secondary data processed, 2016

Based on the criteria of Durbin-Watson (D-W) test, the summary can be presented in the figure

4.3 below:



According to DW table $(\alpha; k; n=0.05; 3; 50)$, using significant level (α) of 5%, the amount of sample (n) is 48 and there are three variables (k=3), then the value of dL obtained is 1.421 and the value of dU is 1.674. Based on table 4.5, the value of Durbin-Watson (DW) test is 2.097. The value of DW is located between the upper limit and upper bound (du) and (4-du) which are 1.674 < 2.097 < 2.285 therefore it can be concluded that there is no autocorrelation in the regression model.

4.4 Hypothesis Testing Result

4.4.1 Multiple Regression Analysis

This research uses multiple regression analysis as a statistical analysis to test the hypotheses. It can be used to determine the relationship between corporate environmental performance (PROPER) and financial performance (ROE) and the relationship between environmental disclosure (GRI) and financial performance (ROE) by SPSS. Then, the following the results:

Table 4.6

		Unstandardize	ed Coefficients	Standardized Coefficients	2	
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.415	.254		1.630	.111
	GRI	-1.432	.868	256	-1.649	.107
	PROPER	037	.095	060	389	.700

The Result of Multiple Regression Analysis

a. Dependent Variable: ROE

Source: Secondary data processed, 2016

Table 4.6 shows the results of multiple regression analysis, the regression analysis based on the results can be formulated as follows:

Financial performance (ROE) = 0.415 + -0.037 environmental performance (PROPER) + -1.432

environmental disclosure (GRI) + e

Regression equation above shown that environmental performance which measured by PROPER and environmental disclosure which measured by GRI have coefficients that is negative.

4.4.2. t-test

Hypothesis testing was performed using regression analysis to determine the effect of independent variables individually. In addition to measuring the strength of the relationship between two or more variables, regression analysis also shows the direction of the relationship between the dependent and independent variable. The researcher used t-test to test the research hypotheses. The decision making was done by comparing the t value of each coefficient with the t table, with a significance level of 5% (α =0.05):

- a) $H_{a:}$ The hypothesis is accepted if the significance is less than 0.05 (sig. $t < \alpha$). This means there is a relationship between environmental performance and financial performance.
- b) H_0 : The hypothesis is rejected if the significance is greater than 0.05 (sig. $t > \alpha$). This means there is no relationship between environmental performance and financial performance.

I. Hypotheses I

Based on the result of t-test presented in table 4.6, the result of the study in first hypothesis test showed p-value is 0.107 significance and it is more than 0.05 (sig. 0.107 > 0.05), so it can be concluded that H_0 is accepted and H_a is rejected. It means there is no significant relationship between environmental disclosure and financial performance.

II. Hypotheses II

The second hypothesis testing was conducted to determine whether there is a relationship between the environmental disclosures (GRI) and financial performance (ROE) of the company. Based on the results of t-test presented in table 4.6, the results of the research in second hypothesis test showed p-value is 0.7 significance and it is more that 0.05 (sig. 0.7 >

0.05), so it can be concluded that H_0 is accepted and H_a is rejected. It means there is no significant relationship between environmental performance and financial performance.

4.4.3 Coefficient of Determination (**R**²)

The coefficient of determination (R^2) is a value that indicates how much the independent variables can explain the dependent variable. Coefficient of determination test results is shown in table 4.7 as follows:

Table 4.7

The Result of Coefficient of Determination

Model Summary^D

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	$.268^{a}$.072	.024	.29838	2.097

a. Predictors: (Constant), PROPER, GRI

b. Dependent Variable: ROE

Source: Secondary data processed, 2016

Table 4.7 presents that coefficient of determination (R^2) has the value of 0.072 or 7.2%. It shows the independent variables used in the regression models (environmental disclosure and environmental performance) are able to explain its relationship with financial performance by 7.2%, while the 92.8% is explained by other factors. However, because this research uses two independent variables, then coefficient of determination test is better to use the value of Adjusted R Square (Adj R^2). Adj R^2 value in the regression model of this research is 0.024 or 2.4%. This indicates that the variables of environmental disclosure and environmental performance are able to explain its relationship to the variable of financial performance only by 2.4%, while the influence of 97.6% is explained by other factors that are not used in this regression model research.

4.5 Research Data Analysis

4.5.1 Relationship between Financial Performance and Environmental Disclosure

From the research results, it revealed that there is a negative relationship between financial performance as measured by return of equity (ROE) and environmental disclosure as GRI (Global Reporting Initiative). This is because the companies disclosed only limited information as it is stated in general, so most of the information that the company provides were not accordance to GRI index. From previous research also stated that some companies disclose little or nothing even though there are potential benefits to addressing environmental issues in terms of global sustainability (Milanes-Montero P., et al., 2014). In addition, according to Sousa & Ometto (2011) because services as product of hotel industries with non-physical attribute, the direct or indirect environmental impacts are not easily identified. It is also stated from previous research that company's willingness to provide the environmental disclosure voluntarily does not happen (Rachchh & Gadade, 2015). These findings contrast with book of Accounting Theory (Belkaoui, 2006) that disclosure serves to provide information that will help investors and creditors assess risks and the potential of things that are recognized and not recognized. Based on Suwardjono's book Teori Akuntansi: Perekayasaan Pelaporan Keuangan (2012), those companies' type of disclosure is called adequate disclosure. Adequate disclosure is a concept with the minimum disclosures required by the applicable regulations, so that the numbers presented can be interpreted correctly by investors (Suwardjono, 2012).

Even though there is a negative relationship between financial performance and environmental disclosure, the researcher found that in most of the annual report of hotel and hospital industries, there is a correlation with eco-efficiency theory. Based on this theory, hotels and hospitals are motivated to improve their operations to become more environmental friendly for improving their corporate image.

4.5.2 Relationship between Financial Performance and Environmental Performance

From the results above, it revealed that there is a negative relationship between financial performance as measured by ROE (return of equity) and environmental performance as measured by PROPER (Program Peringkat Kinerja Perusahaan). The environmental impacts are not easily recognized because most of the time the environmental loads of service companies have indirect impacts or not produced at the actual location of activity (Sousa & Ometto, 2011). Sousa & Ometto (2011) also added that most of resources turn out to become waste even though it is not processed into product.

Previous research identified that hotels rather slowly to commit in adopting environmental friendly concept (Dimara et al., 2015). Another research also stated that even though hotel industry is known as one of the most energy-intensive industries, yet it was initially slow to react to environmental demands (Mak & Chang, n.d.). Even in Indonesia, it is quite late for hotel and hospitals industries to be aware about go green compared to other countries. Despite there are PROPER and government regulations on environmental issue, it did not make companies, including hotels and hospitals to directly apply the green concept for their building or services (Grahardyarini, 2011). Grahadyarini (2011) also stated that hospitality industry said it is not easy to apply green building concept.

The main factor why green concept seemed hard to implement is the investment would become more expensive because they have to expense more fund than normal project (Grahadyarini, 2011). In opposite view, by applying environmental accounting for the green concept, a company can control the environmental expense that is difficult to control before because it is unseen in the overhead (Nengzih, 2014). This also could be a competitive advantage for hotel and hospital companies that intend to be environmentally friendly because environmental accounting allows the cost to be identified, measured, and allocated properly to the products or services which can facilitate controlling cost savings (Nengzih, 2014).