THE QUALITY OF ENVIRONMENTAL PERFORMANCE ASSESSED FROM GREEN ACCOUNTING IMPLEMENTATIONS IN COMPANIES IN INDONESIA

Muhamad Ghofar Dwi Saputro\textsuperscript{1}

Dian Anita Nuswantara\textsuperscript{2}

State University of Surabaya, Indonesia\textsuperscript{1,2}

\textit{(Submit : 11\textsuperscript{th} February 2022, Revised : 28\textsuperscript{th} February 2022, Accepted : 25\textsuperscript{th} March 2022)}

ABSTRACT

This study is dedicated to making a description of the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia. Sources of data used in this study are data from scientific papers related to research problems as well as from previous research. This study uses an analytical method in the form of a literature review with the help of the MAXQDA 2020 software. The results of this study prove that companies that implement and report their environmental performance or green performance in environmental reporting or green accounting in Indonesia have an influence on the company's image in the eyes of company stakeholders. Companies that report clearly and correctly their environmental performance can make users of this information aware of the company's economic and environmental performance. This information, if published, will provide various benefits in accordance with the explanation in this study, namely the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia. Most companies in Indonesia only fulfill one indicator of the implementation of green accounting, namely the presentation of costs associated with corporate waste management in the financial statements so that the company's environmental performance can only be seen through the projected numbers in the overall accounting concept. The quality of environmental performance reporting or green performance in environmental reporting or green accounting by companies in Indonesia is still not good enough, seen from the lack of environmental performance reporting by certain companies. Companies that record their environmental performance and publish these reports properly and correctly tend to have a positive image in the eyes of stakeholders.

Keywords: Green Accounting, Green Performance, Stakeholder.

PRELIMINARY

The rise of environmental issues that have recently become a concern of the world community. One of the environmental problems that is often discussed is global warming. Global warming is defined as an increase in the average temperature on earth and is the cause of climate change. As the earth warms up, disasters such as typhoons, solar storms and floods will occur more frequently. Climate change will increase the number of people suffering from disease, even death from heat waves, floods, typhoons and solar storms (Venkataramanan & Smitha, 2011).

The main contributor to the greenhouse effect and global warming is carbon dioxide from burning fossil resources such as natural gas, coal, petroleum, gasoline and pollution from the company's manufacturing processes. The business entity not only produces carbon dioxide gas in the
atmosphere, but also liquid and solid waste which is channeled into rivers and oceans. This clearly proves that the company has a big influence on environmental damage.

Companies should be responsible for the environment for the operations they run. Because now a new awareness has developed that people question not only the quality of the product but also how the environmental impact of the product's manufacturing process is. These communities are known as green consumers, consisting of suppliers, customers, employees, local communities, and the government, or in other words, company stakeholders (Sukoharsono, 2007). They require companies to provide information regarding the company's business operations related to the environment.

Indonesia as a developing country certainly also plays a role in environmental sustainability related to green performance or environmental performance. However, it can be said that the Indonesian state is still lacking in terms of environmental performance. This is stated in the issue of the GGEI or The Global Green Economy Index 2016, namely “no country in Asia has ranked well for performance on the recent GGEI, except for Cambodia, which is the most developed country compared to the previous edition, up 22 places to 20th overall. China, India, Indonesia, Japan and South Korea performed better in terms of GGEI perceptions, but continued to record their results”.

GGEI also shows data on the lack of environmental performance of the Indonesian state which even tends to go in an alarming direction, which is listed in the following data:

![Source: The Global Green Economy Index tahun 2016](image)

**Figure 1: Indonesian State Environmental Performance Data According to GGEI**

Indonesia's performance results at GGEI 2016 continue to be very worrying, falling at the bottom of the rankings, as was the case in the 2014 edition. Indonesia continues to perform well in the Leadership & Climate Change dimension, again being among the top twenty of the eighty countries covered. However, Indonesia's results are very low on the other three dimensions of GGEI. The message seems clear: Indonesia's leadership is starting to prioritize green growth, but the real impact of this commitment has yet to be seen in the broader economy or in the country's environmental performance.

Green accounting is an accounting concept and theory that specifically studies the impact of company activities on the environment and this activity should be calculated and recorded in financial records in the private sector or the government sector. From the green accounting concept, every
company that produces waste in its operational activities needs to implement green accounting because of the costs incurred in managing the waste. Implementation is the implementation of a series of activities in order to provide public policies so that policies can bring results, as expected by Syaukani et al (2004: 295).

Disclosure of environmental accounting in developing countries is still lacking. Many studies that have developed in the area of social accounting disclosure show that companies reporting their environmental performance are still very limited. (Siregar et al., 2013) emphasized that one of the limiting factors is the weak legal sanctions that apply in the country. (Siregar et al., 2013) citing research by Mobus (2005) which found that there is a negative relationship between mandatory environmental disclosure legal sanctions and regulatory irregularities by companies.

Even though there have been many policies and regulations related to environmental sustainability, the environmental performance of the Indonesian state is still lacking or can be said to be bad. This is in accordance with the data from GGEI mentioned above, therefore the researcher chooses to focus and develops a central question, namely how the quality of environmental performance is viewed from the implementation of green accounting in companies in Indonesia. From this central question, the researcher tries to make a description of how the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia.

LITERATURE REVIEW

Stakeholder Theory

Stakeholder theory according to (Freeman & Reed, 1983) is a group of people or individuals who are identified as influencing company activities or being influenced by company activities. Duran & Radojicic (2004) argue that shareholders, workers, suppliers, banks, customers, government and communities play an important role in the organization (playing a role as stakeholders), for that the company must take into account all the interests and values of its stakeholders.

Green Accounting

Environmental or green accounting in the context of this research is micro environmental accounting which discusses at the company level. Based on the definition made by (Burritt & Schaltegger, 2010), Green accounting is a branch of accounting that deals with activities, methods and systems; record, analyze and report; environmentally include financial impacts and ecological impacts with the definition of an economic system. Green accounting is a part of accounting development where non-monetary, physical and quality factors have received great attention. Green accounting consists of two subsystems, one of which concerns the financial impact of environmental protection, such as environmental expenses and income; and others related to the environmental impact of the company's economic activities, such as calculating changes that occur in the environment which are the results and operations and activities of the company (Pal., 2011 in Hernádi, 2012).

Indicators of the application of green accounting in companies are as follows, Dunk (2006) and Susilo (2008):

a. There is a process of reducing or limiting waste
b. There is a search for activity costs that affect the environment
c. There is a consideration of environmental aspects in investment or exchange decisions
d. There is a product design process that is influenced by environmental aspects considerations
e. There is a product design process that is influenced by customers and other stakeholders
f. Fulfillment of environmental standards
g. Supporting the achievement of sustainable profits
h. Identify product raw materials that are harmful to the environment
i. Presentation of costs associated with corporate waste management in financial statements

Green Accounting Aspects

Green accounting or environmental accounting is the identification, measurement and allocation of environmental costs, the integration of these environmental costs into business decisions and communicating this information to company stakeholders.

Green accounting initiatives aim to promote policies and businesses that work for the environment; Some company leaders now agree that capital investment requires a transformation in a direction related to climate change. Green accounting, also known as value-based or ethical financial investment, is an investment process that considers environmental information, positive and negative, in the context of securities and investment analysis (Kwarto, 2012).

Businesses do not operate in an empty or vacuum state. Businesses need resources to produce goods and services; businesses extract resources that come from and affect the environment; and businesses attract a workforce that originates from and impacts the community. Businesses need an “operating license” to do all of these things, not only from the authorities but also from their stakeholders. (Godschalk, 2012).

(Siregar et al., 2013) provide empirical evidence that shows that the quality of corporate environmental disclosure has a high correlation with ratings conducted by external parties. Green accounting is disclosure or documentation of company operations related to environmental use to shareholders or stakeholders such as suppliers, customers and other related parties (Kwarto, 2012).

(Negash, 2012) argues that technically, the company's social and environmental sustainability reporting does not have a standard or format. The 2008 financial statement standards namely IFRS 6 (early adoption), IFRIC 5, IAS 37, IAS 27, IAS 8 and IFRS 8 do not allow companies to disclose key environmental information.

Green Accounting and Its Benefits

The use of green accounting concepts for companies can encourage the ability to minimize environmental problems that companies face. Some of the benefits of green accounting as a consideration for companies to implement green accounting as part of the company's accounting system. According to Sukoharsono (2007), there are many benefits of green accounting that contribute to increasing the company's profitability in the short and long term (sustainability). By implementing green accounting, companies will:

a. Better to see opportunities to reduce operating costs
b. Reducing energy and resource related costs
c. Assist in making strategic decisions related to continuing or stopping a particular process or product
d. Gain competitive advantage by reducing environmental impact by improving product design, packaging and processes
e. Help ensure the company fulfills existing rights and obligations (such as compliance with laws and regulations)
f. Improve company image

Green Performance

Bennett et al (2000) define environmental performance as "the company's achievement in managing any interaction between the company's activities, products or services and the environment". Environmental performance is the company's achievement in managing the interactions between the company's activities, products and services and the environment.

Lober (1996) suggests a matrix that provides a framework for organizations to measure environmental performance into four dimensions (see Figure 1). First, the dimension of internal processes, namely organizational systems; describes the characteristics of the company's structure and programs, including written policies, internal control mechanisms, communications, public relations, training and incentives. Second, the external process dimension, namely stakeholder relations; concerning relationships with stakeholders such as employees, customers, and others. Third, the internal outcome dimension, namely regulatory compliance; concerning compliance or violation of laws and regulations as well as the fines paid. Fourth, the external outcome dimension, namely environmental impact; describes the achievement of more tangible and quantifiable results such as levels of pollution, waste generated, treated waste, and others.

RESEARCH METHODS

This study uses a literature review or literature review. Literature review is a survey of scientific sources on a particular topic or in short, research that is in-depth discussion of the content of written information. This literature review aims to explore a person's thoughts as stated in a book or published literature. In this case, the aim is to evaluate the current state of the research and demonstrate knowledge related to scientific debates around the topics raised by the researcher.

In the literature review, the researcher chooses a focus and develops central questions to direct the research objectives. Research questions are not in the form of a dissertation which must be answered with original data. Where in this study the central question raised by researchers is about how the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia. From these questions the researcher will answer only based on reviews of existing publications. Furthermore, the researcher looked for related sources to be used as a reference in the literature review. After the relevant sources are collected, the researcher will identify these sources based on the research keywords, namely environmental performance. Furthermore, they are grouped based on the type of research where in this study the researcher chooses the type of quantitative research as the data source because quantitative research data has a focus on a certain scope of the data source samples in his research so that from some of these focuses can represent all company sectors in Indonesia. After grouping based on the type of research, the researcher sorted the data sources again based on the location where the research was conducted, in this case, namely in Indonesia or cases that occurred in Indonesia. In this study, researchers used the MAXQDA 2020 application to process the data sources that had been obtained according to these criteria.

After doing these things, the researcher will present the data obtained from the grouped data sources which are the output of the MAXQDA 2020 application in the form of a bar chart.
Furthermore, the researcher will describe the results and answer the questions raised by the researcher. From the results of the literature review, the researcher will draw the results and conclusions from the topics raised by the researcher.

RESULTS AND DISCUSSION

Environmental Performance Reporting in Companies in Indonesia

This study describes performance reporting in companies in Indonesia with literature studies on journals related to green accounting, environmental performance, and reporting related to social and environmental responsibility.

The general definition of environmental accounting or green accounting is the identification, measurement and allocation of environmental costs, the integration of these environmental costs into business decisions and communicating this information to the company's stakeholders. According to Negash (2012), there is no specific format or standard on how to implement green accounting on IFRS and IAS, so that there is freedom for every business entity regarding the form of implementation of green accounting.

The data obtained by researchers from literature studies are data from the results of grouping and sorting from 112 journals related to green accounting and green performance. The data were analyzed based on keywords, the type of research and the location where the research was carried out which contained in each study in the data source. By using the MAXQDA 2020 application, researchers sorted a number of 112 scientific journals or data sources based on the research focus. The results of the literature review are then presented in the form of a bar chart so that it is easy to understand.

Environmental Performance

<table>
<thead>
<tr>
<th></th>
<th>Documents</th>
<th>Percentage</th>
<th>Percentage (valid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTAL PERFORMANCE</td>
<td>88</td>
<td>78,57</td>
<td>100.00</td>
</tr>
<tr>
<td>DOCUMENTS with code(s)</td>
<td>88</td>
<td>78,57</td>
<td>100.00</td>
</tr>
<tr>
<td>DOCUMENTS without code(s)</td>
<td>24</td>
<td>21,43</td>
<td>-</td>
</tr>
<tr>
<td>ANALYZED DOCUMENTS</td>
<td>112</td>
<td>100.00</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Researchers

Figure 1: Bar Chart and Table of Data Sources Related to Environmental Performance
Object of Research

<table>
<thead>
<tr>
<th>Documents</th>
<th>Percentage</th>
<th>Percentage (valid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE CASE IN INDONESIA</td>
<td>94</td>
<td>83,93</td>
</tr>
<tr>
<td>PROPER</td>
<td>89</td>
<td>79,46</td>
</tr>
<tr>
<td>COMPANIES ON THE IDX</td>
<td>87</td>
<td>77,68</td>
</tr>
<tr>
<td>DOCUMENTS with code(s)</td>
<td>106</td>
<td>94,64</td>
</tr>
<tr>
<td>DOCUMENTS without code(s)</td>
<td>6</td>
<td>5,36</td>
</tr>
<tr>
<td>ANALYZED DOCUMENTS</td>
<td>112</td>
<td>100,00</td>
</tr>
</tbody>
</table>

**Source: Researchers**

**Figure 2: Bar Chart and Table of Data Sources Related to Cases in Indonesia**

From the results of the data grouping, the researcher sorted 112 related data sources so that there were 88 relevant data sources related to environmental performance in companies in Indonesia, namely by using the keyword research cases in Indonesia, PROPER and research objects using companies listed on the IDX. Furthermore, the researcher will sort again from the 88 scientific journals or data sources based on the type of research from each of the existing data sources, where in this study the researcher chose the type of quantitative research as the data source.

By using the MAXQDA 2020 application, the researcher sorted 88 appropriate data sources based on the type of research. Following are the results of sorting out data sources related to environmental performance in companies in Indonesia based on the type of research, namely quantitative research.

Types of Research

<table>
<thead>
<tr>
<th>Documents</th>
<th>Percentage</th>
<th>Percentage (valid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUANTITATIVE</td>
<td>71</td>
<td>63,39</td>
</tr>
<tr>
<td>DOCUMENTS with code(s)</td>
<td>71</td>
<td>63,39</td>
</tr>
<tr>
<td>DOCUMENTS without code(s)</td>
<td>41</td>
<td>36,61</td>
</tr>
<tr>
<td>ANALYZED DOCUMENTS</td>
<td>112</td>
<td>100,00</td>
</tr>
</tbody>
</table>

**Source: Researchers**

**Figure 3: Bar Chart and Table of Data Sources Related to the Type of Research**
The data that appears in the analysis are still 112 data sources, but in the MAXQDA 2020 application the data that has been analyzed and has been grouped will be marked with a description in the form of a code so that the data that has been analyzed will not be reprocessed. From the results of sorting the 88 data, the researcher obtained 71 data sources that were in accordance with what the researchers wanted and 17 data that were not suitable. Furthermore, from 71 data sources, the researcher will analyze using further literature review techniques.

Green Accounting, Green Performance and its Relationship with Stakeholder Theory

Of the 71 data sources, an analysis was carried out related to the significance of environmental performance with profitability and company size. In the following, the researcher presents an overview of the flow of data analysis from related data sources.

### RESULTS

<table>
<thead>
<tr>
<th>Documents</th>
<th>Percentage</th>
<th>Percentage (valid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGNIFICANT</td>
<td>85</td>
<td>75.89</td>
</tr>
<tr>
<td>SIGNIFICANT VALID</td>
<td>70</td>
<td>62.50</td>
</tr>
<tr>
<td>NOT SIGNIFICANT</td>
<td>26</td>
<td>23.21</td>
</tr>
<tr>
<td>NOT SIGNIFICANT VALID</td>
<td>25</td>
<td>22.32</td>
</tr>
<tr>
<td>DOCUMENTS with code(s)</td>
<td>85</td>
<td>75.89</td>
</tr>
<tr>
<td>DOCUMENTS without code(s)</td>
<td>27</td>
<td>24.11</td>
</tr>
<tr>
<td>ANALYZED DOCUMENTS</td>
<td>112</td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Source:** Researcher

**Figure 4:** Bar Charts and Data Source Significance Tables

25 data sources that are significant to variables outside the size and profitability of the company that are related to company image

1 data source with environmental performance has no significant effect on company profitability

20 data sources with environmental performance have a significant effect on company profitability

71 data sources were analyzed based on their significance for the variables in each data source

The significance of company size on environmental performance

The significance of environmental performance on company profitability

29 data sources with environmental performance have a significant effect on company profitability

25 data sources that are significant to variables outside the size and profitability of the company that are related to company image

Source: Researcher

**Figure 5:** Literature Review Process Chart
Of the 71 data sources that have been analyzed based on the significance of the variables used in these data sources, namely environmental performance with profitability and company size. Then the researchers analyzed these data sources carefully by reading and understanding the main focus of these data sources in accordance with the significance between the existing variables, namely environmental performance with profitability and company size. From the analysis, it was found that as many as 70 data sources stated significant results on these variables and only one data source stated that there was an insignificant relationship between environmental performance and company profitability with the following details:

a. 19 data sources with firm size have a significant effect on environmental performance
b. 1 data source with environmental performance has no significant effect on company profitability
c. 29 data sources with environmental performance have a significant effect on company profitability
d. 25 data sources with significance to variables related to the company outside the size and profitability variables of the company such as firm value in the eyes of stakeholders.

The most striking result of the analysis on the 71 data sources is that there is a significant relationship between environmental reporting and environmental performance with the company's profitability, where the company's profitability is important for the company in relation to its relationship with the company's stakeholders.

Research conducted by Lindrianasari (2007) provides evidence that company efforts to preserve the environment are still lacking. An audit of company compliance proves that companies that have good news are willing to openly provide information to the public. This implies that environmental accounting disclosures are used by some companies to justify (legitimize) the company's activities that have a bad impact.

Musyarofah's research (2013) concludes that there are differences in responsibilities between large and medium industries related to environmental problems around them, there are differences in environmental accounting reporting between large and medium industries related to surrounding environmental problems, and there are differences in environmental audits between large and medium industries related to environmental problems around it.

From the results of the literature review, it can be concluded that environmental reporting or green accounting is important in increasing company profitability so that it will increase stakeholders' trust in the company. From the literature review, it was also found that there was a tendency for differences in environmental reporting carried out by these companies. The tendency lies in the level of voluntaryness of a company according to the size of the company. Another thing that has almost the same significance in each data source in this study is the existence of PROPER or the Company Job Rating Program which encourages companies that are established in Indonesia to include their environmental performance reports in their annual reports. However, this is mostly done by companies with a fairly large company size. This is in line with the statements of several studies in related data sources where company size affects the company's environmental performance.

In terms of company size, it cannot be denied that there are certain factors that make a company not report its activities related to the environment or environmental report. These factors can be in the form of bad influences that may occur on companies that report environmental reporting. This is conveyed in the research of Gray & Bebbington (2000) which states that environmental accounting can result in worse things than good things in managerial perspectives which tend to affect the
sustainability of a company. However, this is also influenced by existing environmental issues that can result in disclosures in terms of environmental accounting having a bad or good effect for the company.

Problems about the good or bad effects of a company reporting on environmental reporting cannot be a reference for a company choosing not to report its environmental reporting. In practice, a company is required to make reports related to social and environmental responsibility which are regulated in a certain form of rules. This is in line with Negash's research (2012), there is no specific format or standard on how to implement green accounting on IFRS and IAS, so that there is freedom for every business entity regarding the form of implementing green accounting. Other things that require a company to carry out environmental reporting are certain laws or regulations related to this or the company's interest in improving its image by running the Company Job Rating Program or PROPER.

From the results of the two literature reviews, the researcher concludes that green accounting reporting can be influenced by several things but cannot be a reason for a company not to report it. From these results, it can be used as a reference for further analysis of other data sources.

The Quality of Environmental Performance Judging from the Implementation of Green Accounting in Companies in Indonesia

A company / business entity is an organization that was founded with the aim of maximizing the wealth of its capital owners (profitability), besides that there are other goals that are no less important, namely to maintain the image of the company (image) which can be realized by its environmental performance. Environmental performance is the company's achievement in managing the interactions between the company's activities, products and services and the environment.

Susilo (2008) in his research which discusses the application of green accounting in companies in Sleman Regency and Bantul Regency using questionnaire data collection methods and Mann-Whitney test analysis techniques. Research conducted by Joko Susilo concluded that companies in Bantul have more responsibility and involvement in environmental conservation than companies in Sleman. In addition, the accounting reporting and environmental audits of companies in the two areas also experience differences.

In accordance with the two results of the above data analysis using literature review techniques that management decisions regarding environmental performance are also influenced by a related report on the environment or green accounting. But in practice, it is not only management that consumes the report but also other stakeholders. This is a natural thing considering that in today's times, stakeholders also pay attention to environmental factors other than just the profitability of a company. This is also revealed in Manuhara's (2014) research that with increasing environmental awareness, users of financial statements want information on the company's environmental performance so that this report will affect the long-term position of the company.

This study shows that information regarding the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia is still very poor in terms of the results of the literature review which shows that only companies that follow PROPER and companies that want to maintain their image only reveal their environmental performance. Most companies in Indonesia only fulfill one indicator of the implementation of green accounting, namely the presentation of costs associated with corporate waste management in the financial statements so that
the company's environmental performance can only be seen through the projected numbers in the overall accounting concept. This is also with what has been revealed by GGEI which shows data about the lack of environmental performance of the Indonesian state which even tends to go in an alarming direction, which is stated in the following data:

Although it is not easy for researchers to obtain research data sources that are highly relevant due to several constraints in the availability of data sources in print and in the form of digital data. In fact, there are a lot of research that seems more relevant than what researchers use. Reports on environmental performance viewed from the implementation of green accounting in companies in Indonesia, if disclosed clearly and correctly, can make users of this information aware of the company's economic and environmental performance. This information, if published, will provide various benefits in accordance with the explanation in this study, the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia.

CONCLUSION

This research was conducted to determine the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia using literature review data analysis methods. After analyzing the data using this method, it can be concluded that:

1. Companies that implement and report their environmental performance or green performance in environmental reporting or green accounting in Indonesia have an influence on the company's image in the eyes of company stakeholders.
2. Companies that report clearly and correctly their environmental performance can make users of this information aware of the company's economic and environmental performance. This information, if published, will provide various benefits in accordance with the explanation in this study, namely the quality of environmental performance in terms of the implementation of green accounting in companies in Indonesia.
3. Most companies in Indonesia only fulfill one indicator of the implementation of green accounting, namely the presentation of costs associated with corporate waste management in the financial statements so that the company's environmental performance can only be seen through the projected numbers in the overall accounting concept.
4. The quality of environmental performance reporting or green performance in environmental reporting or green accounting by companies in Indonesia is still not good enough, seen from the lack of environmental performance reporting by certain companies.
5. Companies that record their environmental performance and publish these reports properly and correctly tend to have a positive image in the eyes of stakeholders.

The advice given to future researchers is to expand or multiply relevant and reliable data sources so that bias does not arise. Whereas for companies, especially those in Indonesia, it is better to disclose and report on the company's environmental performance so that stakeholders can know the company's performance in the environmental sector which will certainly improve the company's image.

REFERENCES


