Journal of Social Science and Business Studies
Volume 2, No. 4, pp. 294-302
E-ISSN: 2987-6079
http://gemapublisher.com/index.php/jssbs
Received: October 2024
Accepted: November 2024
Published: December 2024

The Implementation of Green Accounting in Indonesia: A Case Study

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Abstract

This research aims to analyze the application of green accounting at one of the state-owned enterprises in Indonesia. Green accounting is a concept that systematically integrates objects, transactions, or social events (humans) and environmental events (earth) to produce complete and useful accounting information. This presents a challenge for companies that utilize their profits to cover capital and costs but fail to allocate costs for environmental management and corporate social responsibility. We used documentation as the data collection method, with interviews serving as supporting data. The study employed a qualitative descriptive research approach, utilizing the content data analysis method. We can conclude that PT XYZ Indonesia has met some of the accounting standards based on the results of the five steps in implementing green accounting: identification, recognition, measurement, presentation, and disclosure of costs related to environmental management activities. However, certain stages of implementing green accounting, specifically the identification and disclosure of accounting policies, did not adhere to the existing standards. The urgency of this research lies in providing information about the application of green accounting, which can enhance companies' ability to mitigate environmental issues. The findings of this research will contribute to the development of knowledge and insight regarding green accounting. This is in accordance with one of Indonesia's national research priorities or focus areas, which is the green economy.

Keywords: environmental accounting, green accounting, waste processing costs.

INTRODUCTION

The environment and natural resources are two factors that are closely related and influence the company (Kraus et al., 2020). The interconnected and influence of the natural resource environment on companies has given rise to various issues related to the environment such as global warming, air pollution, careless waste disposal and other company activities that have an impact on the environment. Over the last few years, accounting has had a new paradigm called Green Accounting, a concept that considers the assessment of environmental costs (Dhar, 2022). The environmental sustainability of business practices needs to be published because more and more stakeholders are demanding this information (Wiredu et al., 2023). In addition, green accounting can help managers in their tasks by offering specific information necessary because green accounting incurs costs and obtains environmental benefits (Rounaghi, 2019).

Green accounting is considered as a field of accounting that functions and identifies, measures, assesses and reports environmental accounting (Lestari et al., 2023). Meanwhile, according to Qian et al. (2021), environmental accounting is a term that attempts to group the financing activities carried out by companies or governments in carrying out environmental

DOI: https://doi.org/10.61487/jssbs.v2i4.106

conservation into environmental posts and company business practices. The use of environmental accounting concepts for companies can encourage the ability to minimize the environmental problems they face. Many large industrial and service companies are now implementing environmental accounting (Semenova et al., 2023). The aim is to increase the efficiency of environmental management by assessing environmental activities from a cost and benefit perspective.

The aim of establishing a company is to obtain the maximum possible profit for the company's survival, but apart from that, the company must also pay attention to the state of its environment. If this is not taken seriously it will have a bad impact on the surrounding environment. According to Mayer (2021), a company with good performance is a company that is able to obtain maximum profits for the welfare of the company and also the welfare of its environment. The company's objectives include profitability, efficiency, employee satisfaction and development, social responsibility and good relations with the community (Al-Ghazali & Sohail, 2021). The development of companies in Indonesia is currently growing rapidly, in line with the increasing needs of society itself. A company is an organization that carries out activities using available resources to achieve predetermined goals (Kozieł, 2023). The company was founded with certain goals, in achieving these goals, the company always interacts with its environment, because the environment contributes to the company, there is a shift in the company's goals.

However, currently in Indonesia disclosures regarding environmental accounting are still not specifically regulated in accounting standards. The Indonesian accounting standard, PSAK No. 1 (2009), only emphasizes that companies can also present additional reports such as reports on the environment and value-added statements, especially in sectors where environmental factors play an important role, and in industries where employees as users of reports play an important role (Ramanda, 2018). Also, the Indonesian Minister of Industry has encouraged "large and medium-sized businesses in Indonesia to obtain green certification so that they are able to align industrial development with the long-term sustainability of environmental functions while providing benefits to the wider community" (Justita Dura & Riyanto Suharsono, 2022). Nevertheless, this is still far from being realized because in 2021 the number of businesses certified as environmentally friendly will only reach 0.15%.

PT XYZ (the real company’s name cannot be disclosed) is one of State-Owned Enterprises (BUMN) in Indonesia which is engaged in terminal and port facility management activities. Basically, PT XYZ container terminal services are oriented towards several basic policies, namely: cost efficiency, time effectiveness, and also customer satisfaction. Container terminal services are also supported by the availability of modern facilities and equipment, as well as high-quality human resources capable of providing fast, precise and safe services. Based on the concept above, PT XYZ has quite busy activities every day, but each of these activities can have a negative impact on the environment due to the accumulation of waste at the port, both liquid waste and solid waste, causing pollution which reduces water quality. According to Karri et al. (2021), liquid waste can be defined as waste water that comes from human activities and contains various pollutants that are dangerous both directly and in the long term. Liquid waste can be divided into household waste and industrial waste, while the pollutants contained in waste can be divided into organic pollutants and inorganic pollutants and generally exist in dissolved or suspended form. Pollutants contained in liquid waste pose a serious threat to environmental sustainability because the presence of toxic pollutants can kill aquatic biota. Apart from physical, chemical and biological impacts on the environment, it results in changes in the properties of water which can cause a decrease in water quality (He et al., 2022). With waste production, companies will definitely incur waste management costs as an effort to reduce waste that can pollute the environment around the company.

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Waste can be defined as the process of entering living things or substances and energy or other components into the environment by human activities so that their quality decreases to a certain level which causes the environment to be unable to function according to its function (Environmental Protection Authority, 2019). By carrying out environmental management, this becomes a form of corporate responsibility in overcoming the problem of waste resulting from the company's operations. The company's operational waste management is carried out in a systematic way through a process that requires special costs so that the company allocates the value of these costs in the company's financial records (Boiteau & Pingali, 2023). In this way, companies need to implement a system that can control the company's responsibilities in the environment where the company operates.

The aim of this research was to analyze the application of environmental accounting at PT XYZ Indonesia. The expected benefits from the results of this research are: 1) It is expected that the results of this research can be useful and provide benefits as additional insight and knowledge in the development of accounting science regarding the application of environmental accounting; 2) It is hoped that this research can be used as an input or a consideration by companies in making decisions regarding the application of green accounting in financial reports. Based on the background described previously, the main question for this research is "How is the implementation of green accounting at PT XYZ in Indonesia".

METHOD

The type of research used in this research was a descriptive qualitative. This research used primary and secondary data. Primary data was the result of interviews and secondary data was in the form of documents obtained from the company. The sample in this research was financial reporting documents at PT XYZ Indonesia and 6 (six) respondents from the accounting staffs in PT XYZ.

A normal distribution is one of the foundations of the probability sampling. Qualitative studies, however, investigate the values, beliefs and attitudes of the participants. Based on that explanation, the sample for the interview consisted of 6 (six) interviewees. It was recommended that six to eight interviews for a homogeneous sample and twelve to twenty data sources "when looking for disconfirming evidence or trying to achieve maximum variation". However, it was suggested at least six participants in an investigation with the goal to understand the essence of experience. This research aims to understand the application of green accounting in a company, PT XYZ in Indonesia. Thus, 6 (six) interviewees were considered adequate. Interviewees were randomly invited from PT XYZ's staff list obtained. The list was all staff that involved in accounting division. Therefore, it was expected that all participants should have an understanding of the accounting application including the green accounting. This was the main criteria for selecting the participants. There was no gender consideration since the main goal was to explain the application of green accounting in Indonesia. The participants were contacted regarding the interview through e-mails. These steps were then followed by mail contact. An introductory letter explaining the purpose, content, and method of interviewing was sent to respondents.

The same semi-structured interview questions were asked of each participant. Each interview started with general questions regarding issues relevant to participants. This allowed participants to answer questions freely and raise their own ideas. Each interview took from 30 minutes to 45 minutes. An interview guide was prepared, along with the questions list, to structure the interview process. The questions were designed so that the interviewees could respond openly. Twelve major questions were asked. All interviews (100%) were recorded, and conducted in interviewers' office in PT XYZ Indonesia. Recorded interviews

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were fully transcribed by the researcher. To preserve reliability and content validity, transcripts were submitted to the interviewees for confirmation to avoid misinterpretation. The transcriptions and interview notes were then translated into English by the researcher whose mother tongue is Indonesian. Her translations were checked by an accredited translator.

The data analysis in this research utilized qualitative descriptive methods conducted through several stages. First, data and information relevant to the research objectives were collected. Next, the collected data were identified based on the research focus, specifically financial reporting and interviews related to environmental costs. Subsequently, an analysis was performed on the application of environmental accounting, focusing on the processes of identification, recognition, measurement, presentation, and disclosure within the financial reports of PT XYZ. The analysis results were then compared with Indonesia's applicable regulations regarding the environment, such as Law No. 32 of 2009 on Environmental Protection and Management, along with other related rules and concepts supporting environmental accounting. Finally, conclusions were drawn based on the problem formulation, and recommendations were provided to address the identified issues.

RESULT AND DISCUSSION

Environmental costs are expenses incurred by a company to monitor and manage waste, ensuring that the surrounding environment is maintained in accordance with the company's obligations as outlined in its environmental documents. These costs are an integral part of environmental accounting treatments, requiring identification and disclosure to reflect the company's commitment to environmental responsibility. At PT XYZ, the application of environmental accounting was analyzed using the checklist method, which revealed that approximately 60% of the required environmental accounting treatments have been implemented. The identification of environmental accounting at PT XYZ was conducted through several stages. These included identifying waste management activities undertaken by the company, recognizing the associated environmental costs, and measuring these costs to ensure accurate accounting. Additionally, the company worked on presenting these costs transparently within its financial reports and disclosing them in accordance with relevant environmental accounting standards. he results of this identification process provided insights into the extent of PT XYZ's implementation of environmental cost accounting. By addressing key elements such as waste management, cost recognition, and transparent disclosure, the company demonstrated partial compliance with environmental accounting practices. However, the findings also highlight areas for improvement to align fully with environmental regulations and enhance sustainability reporting.

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Table 1. Accounting Application of PT XYZ's Environmental Costs

No	Environmental Cost Accounting	Environmental Cost Data at PT XYZ
1	Identification Identify environmental costs: a) Maintenance and replacement costs for impacts resulting from waste and exhaust gases b) Environmental prevention and management costs c) Costs of purchasing non-production materials d) Processing costs for products	The company has 2 (two) environmental cost accounts, namely: Solid Waste Costs and Liquid Waste Costs
2	Recognition Items that meet the definition of an element must be recognized if: a) There is a possibility that the economic benefits associated with the item will flow from or into the company b) The item has a value or cost that can be measured reliably	Companies recognize environmental costs if these costs have actually been used by the company in managing its environment .
3	Measurement Basis of Measurement includes historical cost, current cost, budget or completion realized value, and present value.	The company measures costs when realized which are the costs actually incurred by the company and has valid and reliable evidence
4	Presentation An entity recognizes and records environmental costs as a whole, namely within the scope of one general account together with other related accounts	The presentation of the company's general financial reports is included in production costs under management, presented in the company's profit and loss report as general or administrative costs and other costs.
5	Disclosure Disclosure relates to the issue of whether a company's financial information or accounting policy is disclosed or not.	The company discloses environmental costs in the notes to the financial statements (CALK) only to the extent of the total environmental costs combined with general costs and others without providing detailed information and information regarding the environmental costs incurred by the company in managing its environment.

Source: Author's Development.

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The environmental accounting identification carried out by PT XYZ is currently not in accordance with the environmental accounting identification stages. At this stage, what the company should do is identify costs that can be classified as environmental costs, which include: Costs for maintenance and replacement of impacts resulting from waste and exhaust gases; Environmental prevention and management costs; Costs of purchasing non-production materials; and Processing costs for products. PT XYZ currently only groups its waste processing costs into Solid Waste Costs and Liquid Waste Costs. Identification that is not comprehensive will provide the potential for activities that are not recorded as environmental costs. In the end, the company's performance will not show appropriate environmental performance.

At the recognition stage, PT XYZ shows that the company has budgeted costs related to environmental impacts and recognized the amount realized. However, this is not in accordance with the Recognition stage of environmental cost accounting which states that an item that meets the definition of an element must be recognized if: There is a possibility that the economic benefits associated with the item will flow from or into the company; and the item has a value or cost that can be measured reliably. Recognition relates to the issue of whether or not transactions will be recorded in the company's financial report recording system, so that ultimately these transactions will affect the company's financial reports. Based on the results of interviews, it shows that although PT XYZ has noted these costs, they are only usually recognized as costs if the related party has actually recognized the costs and is reported at the end of each recording period or end of month in the amount of the company's budget realization. One of these things is the realization of environmental costs. Based on the results of the analysis, it can be concluded that the recognition stage has not yet been fully carried out, because the costs of solid waste and liquid waste are only recognized by the company when they have been actually realized.

PT XYZ, in measuring the amount of costs incurred, uses the previous period's budget realization as a reference. Companies generally measure the amount and value of costs incurred for environmental management in predetermined monetary units. Based on the results of interviews, it shows that PT XYZ, in measuring or determining the costs incurred to manage the company's environment, is based on the testing costs that have been incurred. Then the environmental costs that are routinely incurred by the company are the costs of maintaining assets in managing the environment such as air measuring equipment, B3 waste storage buildings, water reservoirs and labor costs related to the environment, namely those responsible for K3, and employees who are responsible for disposing of waste, and costs for transporting and destroying B3 waste given to a third party as the person responsible for transporting and destroying B3 waste. The company assumes that the realization of the previous period's budget is a fairly certain reference in determining the value and amount of costs incurred in environmental management in one period because the amount and value will be obtained quite precisely in accordance with the real needs of each period, even though there may be differences or discrepancies The estimated cost difference is not too significant. Environmental accounting requires that the basis of measurement include historical costs, current costs, budget or completion realized value, and present value. Thus, it can be concluded that the measurements carried out by PT XYZ are in line with environmental accounting treatment.

Presentation relates to how financial information will be presented in the company's financial reports. Based on the results of the interview, it was found that PT XYZ has included the accounting environmental cost in production costs under management, presented in the company's profit and loss report as general or administrative costs and other costs. Environmental accounting treatment requires that an entity recognizes and records

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environmental costs as a whole, namely within the scope of one general account together with other related accounts. Thus, it can be concluded that PT XYZ has presented accounts relating to its environmental costs in accordance with environmental accounting treatment.

Disclosure relates to the decision whether financial information or a company's accounting policy is disclosed or not. PT XYZ has disclosed environmental costs in the notes to the financial statements, only to the extent of the total environmental costs combined with general costs and others without providing detailed information and information regarding the environmental costs incurred by the company in managing its environment. Thus, the disclosure of environmental costs at PT XYZ is not in accordance with environmental accounting treatment. This is because the company is deemed unable to disclose and present additional reports regarding the environment.

CONCLUSION

Based on the results of the discussion regarding the application of environmental accounting at PT XYZ, 60% is already in accordance with environmental accounting treatment and the remaining 40% still needs further implementation. The company has also measured environmental costs using rupiah units of the amount spent by the company, but it is still based on or refers to the costs incurred according to the realization of the previous period's budget. PT PT XYZ has not yet carried out classification of environmental costs that occur such as environmental accounting treatment at the identification stage, even though it has recognized environmental costs that occur as exploitation. The company has also measured environmental costs using rupiah units of the amount spent by the company, but it is still based on or refers to the costs incurred according to the realization of the previous period's budget. PT XYZ has presented environmental costs in general costs, but has not yet disclose environmental costs in accordance with the classification of environmental costs incurred.

The implication of this research is that the Indonesian government should aware of the importance of green accounting in helping companies deal with their environmental impact. It is hoped that by understanding the crucial of green accounting specific standard, the government would prepare the standard that would be applied willingly by all business entities. This study is a case study. Therefore, in the future, it is expected that more sample would generate more comprehensive and more meaningful results. It is also suggested for future researchers, to add the discussion from the management accounting side, and to find and trace environmental costs related to waste processing optimally as well as in researching waste processing costs in companies that are directly related to the environment.

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