

Environmental Management Cost Strategy as the Corporate Responsible Toward Environmental Sustainability

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Abstract: *Industrial companies need to manage their environment-friendly since the problem of environmental pollution is very dangerous for the surrounding community. The company's efforts regard to environmental handling are related to environmental costs consisting of preventive costs, detection costs, internal failure costs and external failure costs. The results of this study indicate that PT. Hari Terang always keeps to develop preventive efforts against greater risk of failure, as well as detection activities, show that the company is able to overcome environmental pollution due to the company's operational activities and pay attention to the welfare of employees in the form of health services procurement, especially the factory part in the form of x-rays / lung checkup. The financing for environmental management activities has been budgeted by the company at the beginning of the year, so it does not complicate the cost of company management. All these efforts are made in order to produce friendly products that can compete in the global market moreover it could obtain a positive brand image for the company.*

Keywords: Environmental Cost, Environment-Friendly Products, Brand Image, Excellence of Global Competition.

1. Introduction

1.1. Background of The Study

The problem of environmental costs handling currently becomes an issue that is very interesting to be discussed in an effort to realize environmental sustainability as well as Sustainable Development). In accordance with the rapid growth within the industrial sector, there is a growing competition (Competitive Advantage) both within and outside the country. One way to be able to excel in business competition is to produce a quality product and brand name/image those have positive for the community in general & especially the community around the company. However, the company could have positive brand if its in way keep the environmental damage does not happen pollution such as water pollution, air, soil & the most severe result is poisoning to the human body that can cause defects, all negative consequences of society around that must bear the loss & in the end brand company image will go down.

Regarding this, the government regulation such as Law No. 32 the Year 2009 on environmental protection & management which requires for every company to conduct environmental management in connection with its business activities immediately need. Law No. 32 Year 2009 on the Protection & environmental management, waste defined as the rest of a business & or production activities, while pollution is defined as the process of the entry of living things or substances, energy and other components into the environment by human activities so that the quality decreases to a certain level which causes the environment to not function properly.

As the forms of corporate social responsibility in terms of environmental management, especially company that has been ISO certified (International Organization for Standardization) it is necessary to allocate costs for the

benefit of environmental management to reduce negative impacts that could harm the surrounding community because if the companies ignore the allocation of environmental costs will disturb the going concern of the company especially for its brand image which if not well achieved will bring some losses demands from the community. Similarly, PT. Hari Terang Surabaya as an industrial company that produces batteries with various forms, this company gives positive impact for the society around that the extent & availability of employment with various facilities for its employees such as free treatment, but the existence of this company can also bring negative impact ie, liquid wastes containing chemicals can contaminate water, soil & air that can potentially pollute the environment and transmit disease.

Dealing with the above description, the Author is interested in analyzing and discussing the environmental cost issues through this research, entitled "Environmental Management Cost Strategy as the Corporate Responsible toward Environmental Sustainability".

1.2. Research Problems

The concern to the background statement above, then the researcher proposes the problem formulation as follows:

- 1) How is the adequate environmental cost management strategy?
- 2) Who is the save environmental management strategy?

1.3. Research Scopes

- 1) Environmental limitations in this research are the environment within the company.
- 2) Quantitative information is only limited to the nominal example.

1.4. Research Goals

- 1) To reveal the environmental cost management strategy as a manifestation of accountability towards environmental sustainability.
- 2) To know the implemented strategies by the company if it could be safe for the surrounding community.

1.5. Research Objectives

- 1) To reveals more discourse materials on the importance of environmental costs
- 2) As a reference for research on environmental costs in the future.

2. Literature Review

2.1. Environmental Cost Definition

Environment cost means any costs incurred due to inadequate environmental quality factors as a result of production activities in the company & can reduce the quality of the company. Environmental costs are managed to reduce the incidence of environmental failure cost as well as quality cost, both internal and external. So that company performance can increase according to target.

2.2. Environmental Cost Classification

The classification of environmental costs used in this study is based on Hansen and Mowen (2004) theories:

- 1) Environmental Prevention Cost:
Costs incurred to carry out all activities to prevent pollution and manage waste to avoid environmental damage.
- 2) Environmental Direction Cost:
Costs incurred to carry out all activities to determine whether the products, processes and other activities within the company are in compliance with applicable environmental standards.
- 3) Environmental Internal Failure Cost:
Costs for activities carried out due to the production of waste and waste but not disposed of into the internal environment. Examples include toxic waste management and maintenance of pollution equipment.
- 4) Environmental External Failure Cost:
Costs for activities carried out after removing waste or waste into the environment. For example, the cost of cleaning a polluted lake and cleaning up contaminated soil.

As expressed by Soraya A. Afif (2017) in Quote Media Accounting by FirmanIlham, said there are at least four kinds of environmental costs arising from pollution and industrial waste that is:

- 1) Damage Cost
Environmental Costs due to both direct and indirect impacts of waste such as the increase of various diseases, the death of water biota, and the disturbance of environmental reproduction.

- 2) Avoidance Cost
Economic and social costs regard withthe efforts to avoid the effects of pollution. These costs include spending on equipment, such as air filtering tool in housing.

- 3) Abatement Cost
Costs incurred to maintain or reduce pollution levels. For example by installing waste treatment equipment or net environmental technology users.

- 4) Transaction Cost
The cost used for to undertake the research, planning, management and monitoring of the pandemic.

2.3. Environmental Cost Analysis

According to Irwan (2001: 27) in the cross-economic quotes Volume XVIII by Soraya Linggawati, by analyzing the environmental costs the company obtained several benefits, among others:

- 1) Reduce overall environmental costs
- 2) Increase revenue of the remaining product sales
- 3) Improve environmental performance
- 4) Provide more accurate data on costs and prices for products and services.
- 5) Improve global marketcompetition, through ISO 14000 certified the company will be able to compete in the global market.
- 6) Providing input in making waste management decisions so that the most cost-effective alternative can be selected in waste handling and treatment.

2.4. Environmental Cost Collection-Procedures

The environmental costs incurred by the operations of the company should be carefully analyzed to courage the analysis process, then the collection of environmental costs can be done. As for the steps for environmental cost collection according to Suprayogi (2002) in Biggie Media Mahardika Quotes by Danang Firmansyah, among others:

- 1) Identify the environmental cost elements
The first step is to identify all the environmental costs that may arise from an environmental management system in the company. The identification and subsequent classification should be based on four types of environmental costs: prevention cost, detection cost, internal failure cost and external failure cost.
- 2) Relating elements of environmental costs to central cost accounting.
This step is carried out by sorting through or classifying an element of environmental cost identified by the cost center since it is possible that the environmental cost element comes from a cost center.
- 3) Teamwork between environmental manager with accounting
This stage needscooperative teamwork between the environment and the accounting department is required to manage the environmental cost accounting account to facilitate the recording and retrieval of environmental cost data.

- 4) Involving Cost Center Management
 This stage relates to the acceptance of information by managers and providers of cost centers as well as the preparation and recording of budgets as well as other changes deemed important.
- 5) Environmental Cost Report
 After all costs are collected and classified based on the environmental costs elements, then environmental cost report should be prepared. The success of this stage depends on the success of the environmental cost recording program by the managers and supervisors involved in the company.

2.5. Environmental Cost Measurement-Procedures

Suprayogi (2002) in quotes from Accounting Media by Firman Ilham examine several methods could be used to measure environmental costs, including:

- 1) Full cost accounting
 This method is used to calculate all costs, both internal and external, due to the operations, activities, products or services of an entity. This full cost accounting requires the identification and measurement of environmental impacts and effects associated with the ecosystem.
- 2) Accounting for full private costs
 Charge the environmental costs caused by the organization's internal company to the product.
- 3) Cost-based accounting function
 Charges these costs to the product, individually by using unit level drivers, such as hours of labor and machine hours.
- 4) Cost accounting life cycle
 Charging costs and benefits of environmental influences and improvements. Identifying four stages of the life cycle include resource extraction, product creation, product use, and recycling and disposal.

2.6. Environmental Cost Report

According to Hansen and Mowen (2004: 75) in the Quotations of Accounting Media by Firman Ilham, the reporting of environmental costs is essential if an organization is serious about improving environmental performance and controlling it. A good first step is a report by providing details cost based on category. Environmental costs report by category provides 2 (two) important use; (1) the impact of environmental costs on corporate profitability, (2) Relative amount spent on each category. The environmental cost report also provides information relating to the relative distribution of environmental costs.

Figure 2.6: Environment Cost Report
 For The Years Ended December 31, 2006

	Environmental Cost		Operational Cost Percentage	Environmental Cost Percentage
Preventive Cost				
Training for Employee	\$ 160.000			
Product Design	\$ 180.000			
Tool Selection	\$ 40.000	\$ 280.000	1,40%	9,33%
Detection Cost :				
Checking	\$ 240.000			

Process				
Standard Development	\$ 80.000	\$ 320.000	1,60%	10,67%
Internal Failure Cost :				
Operation of Pollution Protect	\$ 400.000			
Maintenance of Pollution Protect	\$ 200.000	\$ 600.000	3,00%	20%
External Failure Cost :				
Lake Cleaning	\$ 900.000			
Land Restoration	\$ 500.000			
Claim Settlement				
Property Damage	\$ 400.000	\$ 1.800.000	9,00%	60%
Total		\$3.000.000	15,00%	100%

Source: Hansen and Mowen, Akuntansi Manajemen (2004: 75)

The report will be a percentage of the environmental costs of all environmental costs overall operational costs within the company. Thus, management can assess how much effort they are doing to improve the environment and see a comparison of each breakdown of the environmental costs consisting of preventive costs, detection costs and failure costs. Given the December 2006 operating expenses of \$ 20,000,000. Total percentage of operational costs indicates that 15% of operating costs are environmental costs while the proportion of environmental costs to corporate earnings of 3.75% is derived from total environmental costs divided by the firm's profit of \$ 80,000,000 from it can be seen that 3.75% of corporate profits are used to finance waste management. The compiling of a separate environmental cost report can assist management in programming to improve the quality of the existing environment or future quality issues.

The report provides a percentage of environmental costs overall operational costs within the company. Thus, the management can assess how much effort they are doing to improve the environment and see how it compares each of the environmental costs consisting of prevention costs, detection costs, internal failure costs and external failure costs.

2.7. Management Strategy for Environmental Cost

According to Irawanas Quoted by Linggawati (2007), the environmental cost management strategy can be done through the following 3 (three) steps:

- 1) First Stage: Pollution Prevention
 Pollution prevention can be done through processing the waste. The focus for pollution prevention is to minimize or eliminate waste before get occurs. Pollution prevention is part of the total quality management (TQM) that can be used as an effort of company's competitive strategy. The implementation of the pollution prevention strategy depends on the continuous improvement of efforts to reduce waste and energy use.

- 2) Second Stage: Product Service
Product service focuses is not only on minimizing the pollution of the plant but also all the environmental impacts associated with the full product lifecycle. Regard to activities leading to zero-emission means the company must hold a fundamental change in product design and process. One tool, in this case, is to do Design For Environment (DFE) which is a means to create products that are easier to recycle (reuse, recycle or recover). By DFE activities then all impacts from the product to the environment are tested during the design phase. The term analysis of product lifecycle that is "from cradle to grave" should be completely understood at this stage.
- 3) Third Stage: Clean Technology
The use of environmentally clean technology crucially needs to be done by the companies. however, the fact there are still many companies whose existence of the technology is based not on its concern for the environment. Therefore, companies with a forward-looking insight to be able to start planning and investing an environmentally friendly future technology.

3. Research Design

3.1. Research Type

This is qualitative descriptive research, a form of a case study which is a real phenomenon in the context of life and the utilization of evidence sources. Researchers use case study because in general case study is a more suitable strategy if the subject of the question with how (how) in accordance with the formulation of the problem.

3.2. Research Object

The object of this research is PT. Hari Terang Surabaya.

3.3. Data Sources

- 1) Primary data: data obtained by observation & interview
- 2) Secondary data: some company documents covering company cost data.

4. Finding And Discussion

4.1. Environmental Management Activities

Environmental management activities include:

- 1) Based on the interview result it is known that environmental bureau programs related to environmental management owned by the company are adequate.
- 2) Tracking for cost - activity within the company, especially those costs that include environmental cost.
- 3) Classification of environmental cost has been issued by the company based on 4 categories, namely: prevention cost, detection cost, internal failure cost and external failure cost.
- 4) Recapitulation of classification result of all cost into environmental costs

4.2. Implementation of Element Cost

Apply to environmental cost elements within the company into 4 categories, namely:

- 1) Environmental Prevention Cost
Prevention cost is every cost incurred to carry out activities due to prevent pollution & manage waste, avoid environmental damage. Prevention costs include:
 - a) Cost of education & training, Improving insights on the importance of the environment.
 - b) Occupational Safety, Supports Protection & Occupational Safety.
 - c) Cost of maintaining the cleanliness of the infrastructure and channels so that the remaining dirty materials can be finished.
 - d) Maintenance cost of sewage treatment machines, maintaining safety & no jams/disturbances.
- 2) Environmental Detection Cost
Conducting activities to determine whether the process is in accordance with standards & in accordance with environmental safety.
- 3) Internal Failure Fee
Minimize waste generated production process accounting so that standard waste quality standards can be achieved.
- 4) External Failure Fee
The cost of external failure to improve the environment outside the company so as to reduce the anxiety of the surrounding community.

4.3. Environmental Cost Report

Regard to the processing of environmental costs, the management of PT. Hari Terang Surabaya keeps its responsible for the surrounding environment, water pollution, air & land is tight & there is internal sewage treatment & done regularly. The interview with the management shows that management is very concerned about the environment. About the environmental costs, the company has budgeted earlier in accordance with the annual planning.

The other activities that support environmental sustainability are separate garbage disposal that is recyclable and not recycled or it is according to the observation of the researcher conducted in the discipline.

Environmental Cost Report of PT. Hari Terang Surabaya Year 2014

- 1) Prevention costs
 - Education & Training 1
IDR.20,000,000
 - Monitoring the Work Environment
IDR. 360,000,000
 - Goal Maintenance & Channel
IDR. 480,000,000
 - Machine Maintenance
IDR. 180,000,000
- 2) Detection Fees
 - Waste Analysis & Consultant Services
IDR. 120.000.000
 - Chemical cost

IDR. 360,000,000

3) Internal Failure Fee
Implementation of waste treatment
IDR.480.000.000

4) External Failure Fee
- Waste disposal service
IDR. 240.000.000

Total Environmental Cost
IDR. 2.340 million

5. Conclusion

5.1. Conclusion

Throughout the overall statement above, it was taken general conclusion statement as below:

- 1) The company regularly maintains the environmental cost management by budgeting in advance in the annual planning
- 2) Environmental sustainability activities have been undertaken by the company: regular waste management, environmental health counseling, health & building space sanitation, solid & liquid waste management using chemicals, water quality monitoring, soil & air.

5.2. Suggestion

- 1) Entering the global market, the company must pay attention to the products that are environmental-friendly to be absorbed & excel in the global market.
- 2) Management needs to hold work-life seminars that can add insight to workers in the company.
- 3) The management of the company should still pay attention to the proper waste management activity so that it can always keep the environmental pollution does not exceed the standard.
- 4) Need for the handling of work accidents are always ready for medical personnel

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