



## Environmental accounting practices: A Regulatory and internal management perspective

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### ABSTRACT

We conduct a qualitative research to explore Environmental Accounting (EA) practices in a setting that do not have a standard EA or in settings where accounting policy put more emphasis on the principal base rather than the rule base accounting. EA practice is related to the accounting treatment of environmental activities that are integrated, sustainable, and accountable as part of an environmental improvement and affects environment-friendly products within the bound of the law. Our findings are in the synchronic pattern and provide linkage among regulators (environmental and accounting regulators) and internal managements as (a) the integration of management on environmental activities in the business operations that can provide value addition, (b) sustainability related to the legal compliance and improvement of products, (c) reducing risk with updated data, (d) funding in most reliable condition, and, (e) reciprocal commitment. Our findings contribute to the understanding of how EA practices support policy improvement within organizations.

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## 1. Introduction

Many countries in Asia are still in the process of learning the Environmental Accounting (EA) practices. Some of them have still not adopted the International EA standards due to political and cultural factors, and corporate governance (Haniffa & Cooke, 2005). Many managers begin to recede strength to incorporate environmental aspects due to the difficulties to get benefit in short-run. This affects the internal perception of the management regarding EA practices as it has changed much time. Larrinaga-gonzález, Caro-gonzales, Correa-ruiz (2001) find that Spanish organizations are not fully changing their perspective on the environmental aspect, even after doing the reorganization. Reorganization process refers to the adoption of an international norm or environment-based program, such as the Environmental Management System (EMS) or reorganization may also be motivated to proactively engaging stakeholders such as regulators and environmental activists, who can be expected to monitor more closely the firm's future activities (Delmas & Toffel, 2003). Tate, Ellram, and Dooley (2014) convinced the positive side of international interest in environmental supplier practices which postulate that attached national and international standards are most likely to contribute to reduced supplier transaction cost as a standard practice.

Mobus (2005) claimed that voluntary disclosure emphasizes the strategic conceptualization that underscores organizational use and manipulation of symbolic references and/or gestures to obtain legal status from a relevant audience. Therefore, there is need to explore the synchronic pattern of regulators perspective and managerial

perspectives on EA practices. Hence, within the broader understanding of the institutional theory this paper develops a conceptual framework and answers why and how institutions (regulators and firms) are motivated to develop EA. The findings suggest the paradigm to address the EA practices and provide support to institutional decision-makers in improving the practices of EA.

## 2. Theoretical background

Some indigenous inquiries regarding most influencing factors based on institutional (external stakeholders and internal management) perspective on EA practices are still in questions (Mobus, 2005). Recently, scholars are interested in things that are in the mindset of practitioners, such as perspective, internal governance, knowledge forming the pattern of managerial behavior and bringing impact to their institution. Mobus (2005) suggested studying the legitimacy dynamics from both an institutional and strategic perspectives. Institutional pressures tend to thrive in conditions of low accountability. Williams (2015) conveyed that indication of low accountability is the lack of control on economic practices or use of incorrect measurement for disclosures. Accountability matter alone is not consistently answering the steadily practicing of EA as claimed by Mohd Said. Likewise, Sulaiman and Nazli Nik Ahmad (2014) revealed that qualitative and quantitative environmental information do not affect fund managers and bank officers in their decisions. It brings up the impression that EA practices are still in an underscore to be implemented, whereas, Williams (2015) examined from local government accountant's perspective from New South Wales, Queensland, Tasmania and Victoria (Australia) and found that accountants are often neglected to be included in organizational environmental accounting practices. Nevertheless, Savage, Cataldo, and Rowlands (2000) conveyed that the strength of the external aspects increases to make public organizations committed to improving the strength of its legitimacy.

### 2.1 Regulator and managerial roles

Our study settings are Indonesia. Regulations on accounting standards in Indonesia about EA entail environmental regulation in the Protection on Environment Management Act No.32 year 2009. EA is an external configuration which is incorporated in the annual report as Indonesian accounting regulation does not regulate specific standards. Bedner (2010) suggested that the authority is divided across various government levels to give a clear influence on the performance of environmental control; hence, the processes of standard setting, and monitoring and imposing sanctions to protect the environment are in the environmental regulator.

The view of regulators is that environmental regulations are made to tie businesses to the public interest. Besides that, Maran (2013) conveyed that the role of the accounting profession stemming from accounting rules can be inferred through the legislative prescriptions. Therefore, firm's management has an obligation to determine any change in the internal policy of the existing legislations. Although environmental reporting (accounting) in Indonesia is still a voluntary practice, all public and private companies should obey environmental regulations. It is related to the legitimacy of the environmental regulatory, supported by Qian, Burritt & Monroe (2011) as they claimed regulatory pressure and community expectation in social structure as influence category.

### 2.2 Institutional theory and institutional roles

Therefore, the time factor becomes a consideration factor. The results revealed that environmental information seems to have a significant impact in the long-term, but not in the short-term investment scenarios. Harun, Peurseem, and Eggleton (2012) argued that the intention to institutionalize a new performance measurement system cannot be realized if there is a lack of (external) pressure, and they pointed to the isomorphic and mimetic influences that lead to the decision of adopting a new standard. The terms of external pressure and institutionalize are a frame of the process to take a new standard which includes two institutions with different roles. Savage (2000) found that companies have reported more substantial activities information as counteracts responding to societal pressures, but, they gradually changed their reporting practices to symbolic strategic after societal norms and values have been met.

## 3. Method and data

The research is conducted in a qualitative method. The theoretical framework of the study should be linked to the pattern-matching logic (Yin, 1994) because the goal is to find patterns and themes in the progression of organizations (regulators and firms managerial perspective) over time. Triangulation is conducted to get the salient logic of the findings. Data is gathered from three sources as;

**Regulator Interviews:** To answer the first research question about how regulators set standards related to the environmental accounting practices. It was not easy to get the time to interview the regulator due to bureaucracy,

but the good open governance of public policy that has been promulgated by all government agencies primarily associated with the explanation of the state policies and regulations gave researchers the opportunity to ask questions about public policy related to the environment in general and the accounting policy related to the environment. An interview method is an open-ended approach. This method is more flexible to interview regulators because the background of the main persons have different function in institution and each institution represent different area of authority as shown in Table 1 and government policies related to the environment has different characteristics, as the basic laws that are used such as regulatory environments are using a foundation of civil law and accounting regulations are using the legal basis for public (business).

**Internal Management Interviews.** Answering the second research questions about what is the most decisive strategic thinking by firms to incorporate environmental aspects in business and the accounting system in particular. Managerial interviews held from two leading companies in Indonesia as Company A is a cement manufacturer that control 80% of the domestic market and Company B is medicines manufacturer controlling 55% of the domestic market. The approach of data collection is semi-structure interview adapted from [Burritt, Schaltegger & Zvezdov \(2011\)](#) which offers items of the questions related to the carbon accounting and issues related to the general knowledge about EA are adopted from [Fleischman and Schuele \(2006\)](#). The questions were adjusted to the knowledge of the key person when confronted with issues related to EA.

**Documents.** Evidence needed to strengthen the statement key persons and provide additional information that could not be parsed by the key individuals in the interview. The documents consist of memos from the regulator, notes or magazines owned by the company (issued to the corporate environment), annual reports which are publicly available (company website).

### 3.1 Participant sampling procedure

Two groups of participants, namely: experts and internal management from companies were selected purposefully to understand the phenomenon. Given that the questions asked and the answers from the participants' opinions and reactions regarding environmental issues/events, it is considered important not to select the participants randomly. [Miles and Huberman \(1994, p. 27\)](#), [Kuzel \(1992\)](#) and [Morse \(1989\)](#), among others, argued that "qualitative samples tend to be purposive rather than random."

The first resource is the experts. Two basic things prompted the need for gathering data from experts. First, to understand the external interests as embodied in the theoretical basis for the existence of EA as part of the process incorporated for external interests. Secondly, to know the benefits of specific EA practices for the company. However, the company has a profit motive to ensure business continuity. Therefore, the experts in this research comprise external legal regulators who are associated with environmental agencies, financial institutions, and institutions of accounting standards and internal experts from companies as shown in Table 1.

Table 1: Participants and institution related to EA practices

Sources	Function
Company A	Manager of CSR
	Manager of Production
	IT staff
	Manager of the Environmental Monitoring section
	IT staff
Company B	Manager of Public Relations (PR) and Internal Policy
	Staff of PR
	Manager of CSR and General Affairs
	Manager of Environmental and Community Program
	Staff of CSR and General Affairs
Regulators	Staff of Environmental and Community Program
	Ministry of Environmental and Forestry (KLHK)
	Authority of Financial Services of Republic of Indonesia (OJK-RI)
	Institute of Indonesia Chartered Accountants (IAI)

The participant's numbers are seventeen (17) in total comprising six (6) regulators and eleven (11) key persons from internal management of two leading firms in Indonesia. All the interviewees did not have an accounting profession background, such that KLHK personal background is civil, chemical and physics engineering. Regarding the multiple departments (not only accounting department) background from firm is to get salient emphasis logic of EA practices; it is supported by [Burritt, Schaltegger, and Zvezdov \(2011\)](#) who argued that public relations departments are interested in communicating emission figures, while plant managers are interested in cutting

down energy consumption, and emission traders attempt to optimize emission trading. Yakhou and Dorweiler (2004) mentioned regarding integration of environmental considerations in everyday decisions that impetus on integrating the environmental management department for considering environmental impacts into business strategy and decisions.

## 3.2 Coding and analysis of data

### 3.2.1 The first coding or selective data

NVivo helps researchers to seek the pattern of what the most influential factors are based on institutional (external stakeholders and internal management) perspective on EA practices. Saturation coding is part of validity process as Yin (2004) was concerned about the consistency of data where triangulation approach is implied. The first stage of interviews are gathering saturated items or categories from sources related to 'organizational standard', 'sustainability', 'reporting', 'laws enforcement', 'management system', 'evaluation on EA' 'environmental friendly product', 'growth', 'improving operational', 'compliance to regulations'.

### 3.2.2 The second stage of pattern validity

Node A is a regulatory perspective, and node B is emerged from firms managerial, the coefficient value of Pearson measures the level of synchronization between Node A and Node B which is weak ( $p \leq 3$ ). Despite the weak value constructed in the pattern, Table 2 shows the most prominent patterns shown in the three categories of Nodes A that are 'management on organizational system and activities', 'reporting', and 'sustainability' and two classes of Nodes B that are 'improvement on the environment and product', and 'compliance with regulatory laws'.

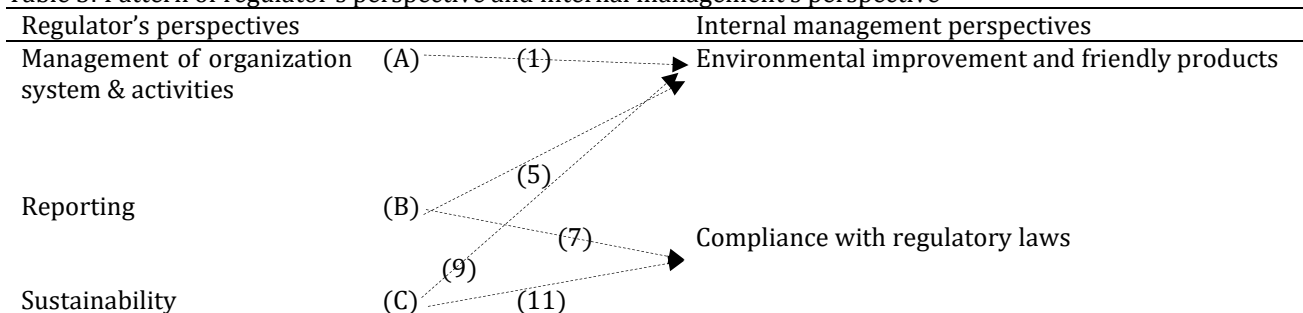
Table 2: Pearson correlation coefficient between nodes A and nodes B

Pattern	Nodes A	Nodes B	Pearson Correlation Coefficient
A (1)	Management of Organization System & Activities	Environmental improvement and friendly product	0.204044
(2)	Management of Organization System & Activities	Growth and sustainability	0.111438
(3)	Management of Organization System & Activities	Compliance with regulatory laws	0.198252
(4)	Management of Organization System & Activities	Improved standard of operations	0.050131
B (5)	Reporting	Environmental improvement and friendly product	0.200518
(6)	Reporting	Growth and sustainability	0.126108
(7)	Reporting	Compliance with regulatory laws	0.201895
(8)	Reporting	Improved standard of operations	0.019584
C(9)	Sustainability	Environmental improvement and friendly product	0.213867
(10)	Sustainability	Growth and sustainability	0.099538
(11)	Sustainability	Compliance with regulatory laws	0.213938
(12)	Sustainability	Improved standard of operations	-0.011344
D(13)	Using organizational standard	Environmental improvement and friendly product	0.150377
(14)	Using organizational standard	Growth and sustainability	0.015965
(15)	Using organizational standard	Compliance with regulatory laws	0.081965
(16)	Using organizational standard	Improved level of operations	-0.037123
E(17)	Evaluation for Environmental accounting	Environmental improvement and friendly product	0.177524
(18)	Evaluation for Environmental accounting	Compliance with regulatory laws	0.18825
(19)	Improved standard of operations	Evaluation for Environmental accounting	0.018391
(20)	Growth and sustainability	Evaluation for Environmental accounting	0.09424

F(21)	Environmental improvement and friendly product	Enforcement of environmental laws	0.176556
(22)	Growth and sustainability	Enforcement of environmental laws	0.064454
(23)	Enforcement of environmental laws	Compliance with regulatory laws	0.155465
(24)	Improved standard of operations	Enforcement of environmental laws	-0.124087

The perspectives on EA from regulators and companies could be in synchronic patterns. Based on the finding, internal management had an initial knowledge on the environmental aspect, whereas EA has not conducted as a prolific program (it mentioned on reporting strategy). Even though, regulators play a key role to encourage (or even to impose) internal management for integrating the environmental aspect in its management system (EMS). As shown in Table 3, integration manners on practices is best value for regulators. The term of best value for accounting practices for the public sector is revealed by Ball (2005) is emerged as a mainstream accounting requirement for local government. Herein, the messages from regulators through current policies and regulation laws (the environmental regulation and accounting regulation) are accepted by firms as a basic guidance in environmental management (but not as technical accounting guidance).

Table 3: Pattern of regulator’s perspective and internal management’s perspective



Hence, on the basis of Pearson test, it captured five (5) patterns which are shown in numbering are based on sequence categories, that are (A1) Management of organization system & activities- Environmental improvement and friendly products, (B5) Reporting-Environmental improvement and friendly products, (B7) Reporting-Compliance with regulatory laws, (C9) Sustainability- Environmental improvement and friendly products, and (C11) Sustainability- Compliance with regulatory laws.

**3.2.3 The third stage of salient logic from pattern**

The salient logic is an important part of the critical research for corroboration of findings. It emerges from patterns that researcher constructed the salient logic words.

Table 4: Salient logical codes on interview data

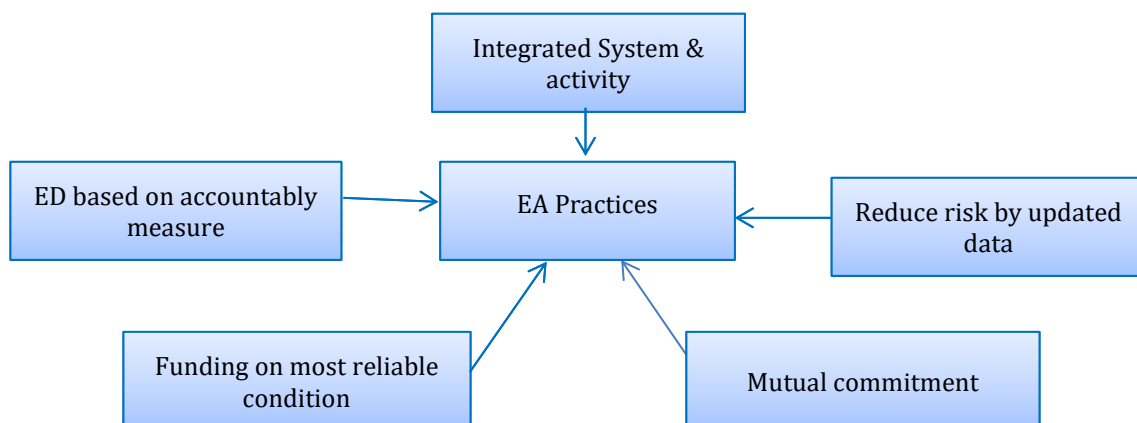
Pattern	Nodes A	Salient logic	Nodes B
A1	<ul style="list-style-type: none"> <li>Estimated benefits are regarded as being useful information for internal management. Also, the inclusion of estimated benefits, as well as actual benefits, reveals a wider range of possible profit to companies, resulting from long-term environmental conservation activities. Consequently, estimated benefits can serve as indicators used in in-house decision making on the progress of environmental conservation activities.</li> <li>Environmental conservation benefit is measured in physical units.</li> <li>External stakeholders can use this useful category as information about the benefit of a company’s environmental conservation activities and predictions regarding future prospects of reducing environmental impacts.</li> </ul>	Integrated system and activity	<ul style="list-style-type: none"> <li>We are less using water in our production because our main product is cement. Noise pollution has been reduced while we change our machine with less noise. Emission is always monitored suppose below of the maximum standard.</li> <li>We count the efficiency of energy usage, reducing emission, the efficiency of water usage, eliminate waste.</li> <li>Emission management relates to the depreciation of support asset such as we buy a new production machine which able to reduce noise and reduce using coal as a source of energy. We have the target every year for reducing emission.</li> </ul>

- |    |  |   |   |
|----|--|---|---|
| B5 | <ul style="list-style-type: none"> <li>▪ For this reason, where calculation results for estimating benefits are reported, as a precaution they should be separated from those for actual benefits and should include the following, the aim of calculating the estimated benefit, the calculation method, how does the company evaluate the certainty of the benefit and the basis for that certainty</li> <li>▪ Through the reporting of its environmental accounting results, a company promotes environmental communication.</li> <li>▪ As a result, a company can see benefits in a diverse range of areas.</li> <li>▪ Firstly, the method for recognizing environmental conservation cost portion of expense recorded in the company's financial statements focuses on the point at which management has made a definite decision on a environmental conservation issue.</li> <li>▪ The attempt to show the greatest possible economic benefit by concentrating on the difference between the environmental conservation cost and the economic benefit may have certain significance for internal utilization regarding the flexibility of business administration items, but there are many items for which the basis of estimation is unclear, and there are also many arbitrary items, so it is possible that stakeholders may misunderstand the environmental accounting data.</li> </ul> | <p>Reporting or environmental disclosure (ED) based on accountable measurements for beneficial communication with externalities</p> | <ul style="list-style-type: none"> <li>▪ The company has segments related to environment and biotechnology. The company also connects the company's value to the Sharia value associated with cleanliness. Mutually, company uses local community values, in the same way, local community gets company values for example nearby our plant site there is a Kampong Batik Celetuk which company shares the environment value for how to manage waste from its industry.</li> <li>▪ Criteria absolute emission reductions derived from the calculation of the comparison between the proceeds with production in tons.</li> <li>▪ Competition on the needs of current vaccine cannot compete on price and quality since production standards all together using the WHO standards. So, we are selling environmentally friendly products, using the environment we are trying to make a difference. One of the ways we do to introduce about environmental friendly product and production process by providing a rural community to participate in healthy living with green concepts.</li> <li>▪ On environmental issues, the company is consistently implementing the provisions of the Environment Acts.</li> </ul> |
| B7 | <ul style="list-style-type: none"> <li>▪ However, in the case, that environmentally conscious materials/parts are lower in price than their conventional counterparts but the benefit obtained is not entirely integrated into the company's goods or services, the cost is booked as an economic benefit associated with environmental conservation activities.</li> <li>▪ In certain cases, some other economic entity (company or organization) aside from the company causing the pollution may be bearing the cost of refurbishing the environment or compensating environmental conservation cost.</li> </ul>  | <p>Reducing risk by updated data based on regulation</p>  | <ul style="list-style-type: none"> <li>▪ We have been trying to follow every regulation from government laws, but its number will increase every year. For example, for CSR reporting, we follow from GRI G-3 then in 2014 changed to GRI G-4. Then the Ministry of Environmental increases its requirement about counting and reporting quality of conservation activities such as must fill the emission form, reduction, prevention of environmental impact form in every week.</li> <li>▪ There are not standards, assumption yet about environmental accounting. We follow the regulatory from government and attempt our consultant for setting accounting procedure for it purposes</li> <li>▪ Profit, people, planet because we realize that we are aware of have an international market, which means that we have to follow the requirements of international standards.</li> </ul>   |

C9	<ul style="list-style-type: none"> <li>▪ Investment, which is believed to realize some benefit in the future, is also calculated and reported.</li> <li>▪ these investments are not considered environmental conservation activities, if it is a non-depreciable asset, it should be recorded as cost.</li> <li>▪ Depreciation in principle base is recognized as an expense for environmental conservation in environmental accounting.</li> <li>▪ Therefore, we can understand a company's current position from the explanation of the results of total environmental conservation benefit and can understand the overall image of the company from the environmental conservation benefit together with the environmental performance indicators shown in the environmental report.</li> </ul>	<p>Environmental investment on technology (funding on most reliable condition)</p>	<ul style="list-style-type: none"> <li>▪ This approach, based on the concept of reducing environmental impact over the entire product lifecycle, begins from the extracting of raw materials and goes all the way to product disposal and recycling.</li> <li>▪ Furthermore, the landfill waste can be reduced using proper intermediate processing to reduce the total waste emissions for final disposal.</li> </ul>
C11	<ul style="list-style-type: none"> <li>▪ It is the framework for integrating the accounting concepts of both physical units and monetary values and addresses the issue of cost performance (cost versus benefit).</li> <li>▪ By using the environmental accounting tool, companies can monitor factors such as environmental conservation cost, environmental conservation benefits, economic benefit associated with environmental conservation activities</li> </ul>	<p>Reciprocal commitment</p>	<ul style="list-style-type: none"> <li>▪ Every year, we must give the Executive Summary (Corporate Environmental Report) to the office (Ministry of Environmental or MOE).</li> <li>▪ Because we must make, CSR report separated with the financial statements as following local GAAP.</li> <li>▪ Following all regulatory requirements of MOE and reaching beyond compliance.</li> </ul>

Yusoff and Lehman (2009) noted a definition on synchronic examination of the patterns of paired oppositions within the text and focused on the paradigmatic structure of messages. The patterns are systemic explaining the possibility of association with other constructs. Saldana (2009, page 6) characterized pattern on similarity (things happen the same way), differences (they occur in predictably different ways), frequency (they often happen or seldom), correspondence (they occur about other activities or events) and causation (one appears to cause another). Hence, Cua and Garret (2009, pp. 40-41) indicated that the reality embodies two interrelated concepts; the first concept concerns the hierarchical order of awareness, perceptions, feelings as well as the subjective and objective reality and the second concept is related to the subjective and objective.

Figure 1: Conceptual framework of institutional perspectives on EA practices



Based on the finding on reconstruction from regulators and management perspectives are the subjective components, the pattern is in similarity and correspondent characteristics as the important points from both sides implied to the procedure of EA practices as the objective component. Hence, the findings of this research are 1)

integrated system and activity, 2) environmental disclosure based on accountable measure, 3) reducing risk by updated data, 4) funding on most reliable condition, and 5) mutual commitment, as shown in Figure 1.

## 4. Findings and discussion

### 4.1 Integrated system and activity

Based on the Protection of Environmental Management Act in Article 1 (paragraph 2) which states that environmental management must be prepared in an integrated way, as well as Article 8 and Article 11 which regulate the determination of national policies on environmental management. Meanwhile, *PSAK 4* is about preventing bias in the submission of reporting associated with additional information that should be separated from reporting on primary information (as shown in Table 4.2). Both these rules (PEMA no.32 the year 2009 of Article 1, paragraph 2 and *PSAK 4*) appear contrary in theory, but it is not so in practice. Even so, the Annual Report consists of Company Profile, Sustainability Report, and Financial Report, the content meanings for the environmental information (EA) is expected not be misstated and unbiased information for external stakeholders.

Although, it has separate reports and presentation style as the two reports are different (the Annual Report and the Executive Summary of Corporate Environmental Report or *DRKPL*), the content of each should be information-linked. Data in the financial statements use quantitative approach and are provided regarding monetary value; this is supported by the statement by the management on financial data in the qualitative disclosure. The Sustainability Report and the *DRKPL* are submitted in qualitative forms that are supported by *PSAK 1* paragraph 24 that qualitative characteristics are the traits to provide information in financial statements.

Although the contents of annual reports set by a company have different characteristics, the format of the financial statement must be by accounting regulators' (OJK-RI as SEC in Indonesia and IAI) stipulation. Meanwhile, the Annual Report has been regulated for integrating the acceptable CSR report (the Sustainability Report) that stipulated by operational laws under Law No. 40 The year 2007 on Concerning Limited Liability Company Law (Article 66), Capital Market Regulation No. X.K.6 Dated 7 Dec. 2006, and Finance Minister Regulation No.316/KMK.016/1994 (source from supported data from OJK). To incorporate the environmental aspect to the accounting system, Qian et al. (2011) conveyed the environmental management accounting procedures should be used to identify the activities or material flows that have a potential environmental impact. The procedures include physical procedures, such as raw material and energy consumption, flows and final disposal; and monetary procedures for costs, savings, and revenue. The concerns about environmental matters from industry perception (such as services or hospitality business), as pointed out by Martinez (2012), comprises the integration of corporate social and environmental responsibility (CSR/ESR). Furthermore, Martinez (2012) suggested optimizing economic and environmental responsibility performances through the coordination of top-down and bottom-up organizational mechanisms. It is supported by Prorokowski (2016) who asserted that addressing the environmental issues means a significant reduction of operational costs and an increase of the EcP translated into annual gross revenue.

### 4.2 Environmental Disclosure (ED) based on accountable measurements

Reporting without measurement is just like talking without any baseline. Reporting and measurement are integrated processes to pursue communication as reliable condition about the activity to promote business ethics. The Capital Market and the Financial Institutions Supervisory Agency or *Otoritas Jasa Keuangan Republik Indonesia* (OJK-RI) mentioned that EA should be referred to in Sustainability Report and should be integrated into the Annual Report. As shown in Table 4.2, the Capital Market and the Financial Institutions Supervisory (OJK-RI) mentioned on EA as part of CSR report for facilitating communication with external stakeholders. An accounting regulator from OJK-RI ER.12 revealed that:

"Through the reporting of its environmental accounting results, a company promotes environmental communication."

The perspective of the regulators regarding the environment is to promote communication of management activities on environment conservation to external stakeholders (as defined by the reporting construct). It is supported by Magness (2006) who stated that the legitimacy theory describes the disclosure decision process by internal management for achieving an effective disclosure policy whether internal management keeps track on public issues and considers the importance of different stakeholders group, and tailors ED accordingly in the most plausible way. Kozlowski, Searcy, and Bardecki (2015) studied the importance of two-way communication for improving overall sustainability performance. Alrazi, De Villiers and Van Staden (2015) conveyed about strategy to communicate the legitimacy power on reporting and argued that it may involve accounting. Liempd and Busch (2013) implied strategic plan for biodiversity for the active engagement of the business sector to promote



biodiversity-friendly business practices and to create communication campaigns (reporting) that promote the economic and business benefits of sustainable production and consumption.

Hence, performance measurement is important for ED, as revealed by Porokowsky (2016) who stated that lack of ED means that the improvements are not quantifiable. Comello, Lepech, Asce and Schwegler (2012) suggested that for the valuation of ecosystem services, management should provide a structure, process or product that is a quantifiable metric of performance.

### 4.3 Reducing risk by updated data

It is simple but not easy, as the sustainable practices are related to the condition of internal function (organizational aspects, technological aspects, and aspects of the activity) and external function (regulatory aspect (Yuliarini, Nor & Othman, 2016). Big companies have the funds to update the data automatically, but medium scale companies need to use limited resources to manage the data, such as the use of manual metric data is a metric card which records daily or weekly basis data related to the electrical and water usage as part of efficiency activities, and innovation activity to reduce the environmental impacts such as the data of emission reduction and reducing water pollution and solid waste.

Firms have legitimation to avoid (reduce) risk by reducing environmental impact. Hence, it is the most important issue in the existing accounting systems that will effectively ascertain and capture environmental data (Bicalho, 2012).

### 4.4 Funding on most reliable condition

The main aim is to show good company performance as part of good corporate governance (GCG) policy to get a permit or extend permit from the local government. The environmental aspect is always associated with the raw materials needed for production. It is revealed by the Manager of the production on Company A that,

“..based on the concept of reducing environmental impact over the entire product lifecycle, begins from the extracting of raw materials, and goes all the way to product disposal and recycling”.

The economic license does not encourage a firm to invest in very costly environmental measures or technologies that do not improve productivity and profits unless government regulations assure that the firm's competitors will be compelled to make similar expenditures (Gunningham, Kagan & Thornton, 2004). Somehow, firms insist on occupying environmental aspect as part of their management system in minimum requirement if the regulator has minimum policies as the standard for regulator's assessment or audit on environmental basis but not in financial measurement.

### 4.5 Reciprocal commitment

Based on the findings that emerged from sustainability is related to the firms' compliance with regulations proactively. Alrazi, De Villiers, and Van Staden (2015) argued that the determinants of stakeholder pressure evoked by regulators shown in their framework that it is supported by findings on the regulator's articulation on EA practices. Based on the finding, regulators have a role to assist and motivate management to adopt EA. Hence, the pressure does not exert a negative impact rather it poses a positive impact on the firms. Kang and Lin (2011) found that firms are more aggressively reporting on EA when accounting regulations substantially motivate management to do so proactively.

## 5. Conclusion and recommendation

The findings indicate that the current practices on EA revealed the pragmatism from morphology institutional on their struggle to occupy complexity roles and survival from the competitive economic environment. Another reason for the weak patterns is that the practices are not supported by an unavailable plausible conceptual framework of EA practices, and it highly dealt with technical guidance from accounting regulations. Standard is not only as rule function but as a communication path between regulators and the institutions who required to implement regulations. The findings suggest paradigm on integrated system and activity, environmental disclosure (ED) based on accountable measurements, reducing risk by updating data, funding on most reliable condition, reciprocal commitment to addressing EA practices.

The maturity level of the organization may affect the level of institutions' understanding of the discourse implied by regulators. The research coverage did not observe EA practices fieldwork. It is a recommendation for future research to explore the EA practices by fieldwork. It will be a visible indication of the ability of individual

companies to adapt to the effects of externality aspects. Another recommendation is to conduct future research based on other theories such as game theory which is a formal model of an interactive situation conducted using specific accounting technique (related to EA) to get emphasis research about EA practices in quantitative or qualitative approaches.

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