

The Implementation of Environmental Management Accounting and Environmental Reporting Practices: A Social Issue Life Cycle Perspective

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Abstract- *While the pressure of legitimacy was found to greatly influence companies' environmental reporting (ER) practices, being environmentally responsible however is not necessarily reflected through positive and descriptive environmental information. Unless companies begin to truly commit to upholding environmentally responsible, that is, to be accountable towards their business environmental impacts, the issue of incompleteness and incredibility of ER will remain topical. For companies to effectively measure and report their environmental performance, the implementation of Environmental Management Accounting (EMA) is essential as conventional accounting systems disregard the generation of environmental information. Using social issue life cycle theory as an interpretive lens, this paper aims to propose a theoretical framework to investigate the relationship between the extent of EMA implementation and ER practices.*

Keywords- *Environmental Management Accounting; Environmental Reporting; Social Issue Life Cycle Theory*

1. INTRODUCTION

The ever escalating environmental issues such as pollution, global warming and deforestation as a result of irresponsible business activities has certainly put a great concern over the role of companies in environmental protection. In fact, the concept of sustainable development has been introduced in the business world decades ago calling for companies to conduct their business activities in environmentally responsible (ACCA, 2003), that is to balance companies' profit orientation with the sensitivity towards the environment. Companies on the other hand, often react to increased scrutiny by reporting their environmental commitments publicly. In this regard, corporate annual report is the most common communication medium used by companies (Gray et al., 1995a, Neu et al., 1998, Freedman and Stagliano, 2002, Othman and Ameer, 2010, Unerman, 2000). However, companies especially those in environmentally sensitive industries tend to report positive and narrative environmental information to appear legitimate (Wilmshurst and Frost, 2000, Deegan et al., 2002, Ahmad et al., 2003, Nik Ahmad and Sulaiman, 2004, Brammer and Pavelin, 2006, Brammer and Pavelin, 2008, Buniamin, 2010, Bouten et al., 2011, Alrazi et al., 2009). Prior research considers chemical, constructions, plantation, mining, petroleum (oil/gas), property, transportation and industrial products as environmentally

sensitive industries (Deegan and Rankin, 1996, Ahmad et al., 2003, Frost and Wilmshurst, 2000, Nik Ahmad and Sulaiman, 2004, Ferreira et al., 2010). Such fabrication of report leads to incredibility and incomprehensiveness of ER. In providing the stakeholders the sources of information to support their economic decision making, the incompleteness of environmental information reported may take its toll on the credibility of ER as a platform to report companies' environmental performance. It is difficult for the stakeholders to evaluate companies' environmental performance if the information reported is largely on narrative form. Such concern indeed is reiterated by a significant growth in the stakeholders' demand for companies to report their quantified environmental information in the corporate annual report (Deegan and Rankin, 1997, De Villiers and Van Staden, 2010, Murray et al., 2006). More importantly, having no indication on the environmental performance, the sensitivity towards the environment may not necessarily improve. A review of literature suggests that very little research has been conducted to empirically examine the relationship between EMA implementation and ER practices (Frost and Seamer, 2002; Tilt, 2006; Ferreira et al., 2010). In spite of this, a considerable number of previous ER research has implicitly assumed that there is a relationship between EMA implementation and ER practices by suggesting companies that engage in

environmental activities¹ should report information related to such activities (see Tilt, 2006). There is also a view that the dissemination of companies' environmental performance can heighten the visibility of their environmental activities, which is seen as a threat to their legitimacy. This particular perspective is closely related to legitimacy theory which believes that companies have a tendency to fabricate their environmental activities to appear legitimate (Ferreira, 2004; Sulaiman and Nik Ahmad, 2006; Hopwood, 2009). Therefore, drawing on social issue life cycle theory, the primary objective of this paper is to propose a theoretical framework to investigate the relationship between the extent of EMA implementation and ER practices. The remainder of this paper is structured as follows. Section 2 presents the review of prior literature and Section 3 discusses the development of hypotheses. The final section concludes the paper.

2. REVIEW OF LITERATURE

2.1 Environmental Reporting – Lack of Quantified Environmental Information

The 1970s has ushered in the era of non-financial reporting (Mathews, 1997; Gray, 2001; Herzig and Schaltegger, 2006). In response to the outpouring public scrutiny over the impact of companies' business activities on the society, companies began to incorporate social aspects into financial reporting to depict their relationship with the society (Herzig and Schaltegger, 2006). Throughout the first decade of the non-financial reporting era, companies placed a greater emphasis on issues related to employees and products, with little consideration on the environment (Mathews, 1997), resulting in many early studies to define the environment in a broader term of social (Deegan, 2002). It was not until 1980s that ER emerged as the prime focus of the researchers, owing to the hostility in social concept along with the upsurge concern on companies' responsibility towards environmental protection (Mathews, 1997; Gray, 2001; Deegan, 2002; Lodhia, 2003; Herzig and Schaltegger, 2006; Owen, 2008). To date, there is no generally accepted accounting standard on ER, although many countries have made the reporting mandatory, including Malaysia. From 2007 onwards, all Malaysian public listed companies are required to report their corporate social responsibility (CSR) activities in the annual reports (Bursa Malaysia, 2007). However, the mandate is lack of specific reporting requirements, leaving companies having full authority to exercise discretionary reporting. In this regards, being transparent perhaps is the least thing to do voluntarily, as far as legitimization is concerned. Companies may avoid

reporting their adverse business environmental impacts as such action is more likely to generate negative public perception towards their companies. In fact, the incompleteness and incredibility of ER has long been a topical issue (Adams, 2004; Owen, 2008; Bouten et al., 2011; Gillet, 2012).

It must be emphasized here that being environmentally responsible is not necessarily reflected through descriptive and positive environmental information. What is essential is the willingness of companies to take account for their business environmental impacts. Most importantly, being green is not a means to an end. Companies also gain benefits from being generous to the environment in terms of cost savings. For example, the effective use of raw materials helps companies to minimize costs of raw materials, disposal costs and wastes generation. It also helps to improve the efficiency of the production processes, leading to a reduction in fuel and energy consumptions as well as man power. In non-manufacturing industries, small actions such as limiting the use of air conditioners, minimizing the use of paper or using recycled paper for documentation, can significantly cut costs. All this information has to be made visible before the integration of such information into companies' decision makings can be sanctioned (Hopwood et al., 2010). Accordingly, this can be realized through EMA implementation as conventional accounting practices provide limited support to the generation of environmental information. More specifically, conventional accounting practices tend to lump environmental costs into the overhead costs (Burritt et al., 2002; Bennett et al., 2002a; Schaltegger et al., 2003; IFAC, 2005).

2.2 Environmental Management Accounting – Its Objectives

EMA has been developed at least three decades ago to meet the needs for companies to satisfy their stakeholders who require environmental information (Burritt et al., 2002; Schaltegger et al., 2003). Through EMA, companies are able to measure physical and monetary environmental information beyond the conventional perspectives. Physical environmental information can be defined as the information related to the flow of energy, water, materials and wastes (e.g. the volume of waste water discharged, total volume of energy consumed and volume of materials recycled), while monetary environmental information is the monetized amount of these information (IFAC, 2005). Both physical and monetary environmental information facilitate the identification of the size and effect of companies' environmental impacts (Sulaiman and Nik Ahmad, 2006), including for compliance purposes (Schaltegger and Burritt, 2005; Gale, 2006; Epstein, 2008; Jalaludin et al., 2011). Measuring environmental costs can be considered as the primary attention in EMA with physical environmental information allows the quantification of such values (Bennett et al., 2002b; Jasch, 2009). These

¹ Environmental activities relate to the environmental operations and strategies (Tilt, 2006) which generally are the internal environmental management practices. These include, but not limited to: the implementation of Environmental Management Systems (EMS), EMA, the establishment of environmental department and environmental audit.

costs are categorized into internal and external costs (Jasch, 2003; De Beer and Friend, 2006; Jasch, 2009). Internal costs are costs that directly related to the product and/or services (Jasch, 2003) such as cost of wastes, land rehabilitation costs and R&D expenditure on green initiative where companies are directly liable for these costs (De Beer and Friend, 2006). On the contrary, external costs or usually referred to as externalities² are costs that companies are not legally accountable for, simply because they are financially immeasurable (Jasch, 2003; De Beer and Friend, 2006; Jasch, 2006). For example, irresponsible business activities are likely to degrade the environment. In this case, instead of the polluting companies, the society as well as the natural habitats pays the price, in terms of declining health condition, physical discomfort and imbalanced ecosystems. Although these impacts are often to be visible in the long term, sometimes, they can be immediate. To minimize the externalities, environmental regulations and standards are being imposed in such a way to internalize these externalities via penalties or fines (Jasch, 2009). In Malaysia, for example, the importance of a specific measure for non-financial information has been reinforced in the Silver Book. The Book was introduced as part of GLC (government-linked companies) Transformation Programs. It demands GLCs to develop a specific managerial accounting system to facilitate the evaluation of their social obligations (Putrajaya Committee, 2006).

2.3 Environmental Management Accounting Implementation and Environmental Reporting Practices

Accounting plays an important role in economic calculation. Similarly, in addressing environmental issues which can be a consequence of some crucial economic activities (Epstein and Roy, 2003; Zulkifli, 2012), the role of accounting is obvious. In particular, accounting facilitates the measurement of both quantitative and qualitative environmental information including the consequences of companies' strategies and actions on their financial performance (Hopwood et al., 2010). Moreover, considering the impact of business activities on the environment cannot be isolated with companies performance, the internalization of the externalities is necessary for companies to better manage their environmental performance (Gray et al., 2001; Lodhia, 2003; Gray, 2010a). Based on the special role of accounting in sustainability, there is a strong emphasis on the potential of EMA implementation to change companies' ER practices (Tilt, 2006; Gray, 2010a; Hopwood et al., 2010). This is simply because, the

absence of proper measurement of environmental information can hinder companies from generating relevant information (Burritt et al., 2002; Schaltegger et al., 2003). This will subsequently lessen their commitment towards the environment due to unavailability of reliable environmental information. However, there also appears to be an inherent problem regarding the non-reporting of EMA information. For example, Masanet-Llodra (2006) found that the implementation of EMA information is more to facilitate the internal decision-making rather than reporting purposes. The claimed nature of EMA information as an internal information and thus is confidential is said to influence the utilization of such information (Masanet-Llodra, 2006). However, an important, but often overlooked, role of EMA is to support both the internal decision-making and external reporting (Frost and Wilmschurst, 2000; Burritt et al., 2002; Jasch, 2003; Schaltegger et al., 2003; Jasch, 2006). Criado-Jimenez et al. (2008) reported that companies, in the struggle to appear legitimate, engaged in concealment strategies such as windows dressing and reporting positive information. In a more recent study, Monteiro and Aibar-Guzman (2010) found that the reporting of environmental performance indicators is still minimal albeit the adoption of environmental accounting standard among Portuguese companies. Interestingly, the abovementioned findings suggest that apart from the willingness of companies to adapt to the new management accounting technique, the willingness of companies to share the information externally is equally important. Indeed, Gray (2010b) has raised an important question on whether accountability can actually be realized in sustainability development, especially when the basic economic model is still significant in businesses (Tinker and Gray, 2003). This leads to the main focus of this paper where it proposes that social issue life cycle theory is well suited to explain the relationship between EMA implementation and ER practices.

3. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Social issue life cycle theory posits that a social or environmental issue evolves from being insignificant to a state where it finally becomes remarkably significant (Nasi et al., 1997; Zyglidopoulos, 2003). An issue arises when there is a gap between companies' actual performance and public expectation, or also known as legitimacy gap (Sethi, 1979; Bigelow et al., 1993; Zyglidopoulos, 2003). In the ever changing business environment as a result of changing public perception, it is very crucial for companies to be alert to the legitimacy gap as they may gain or lose in their reputation by respectively leading or lagging behind in the evolution of societal expectations (Mahon and Waddock, 1992; Zyglidopoulos, 2003). Changes in companies' practices and cultures may also influence the evolution of an issue

² Externalities can be either in terms of positive or negative (Beaver, 1989; Crowther and Aras, 2008). However, more concerns are placed over the negative externalities because of the adverse impacts they have on the environment and the society. Thus, requiring companies to be responsible over their externalities would denote the negative externalities.

(Zyglidopoulos, 2003). In identifying the number of stages or phases in which an issue evolves, prior research however was varied. For example, Mahon and Maddock (1992) claimed that there are four stages³ of issue development, while Ackerman (1975) as cited by Nasi et al. (1997) suggested that there are three stages. Regardless the dispute, Nasi et al. (1997) affirmed that both models are similar in terms of the flow an issue evolves. Table 1 summarizes the three phases of social issue life cycle, which are *Policy*, *Learning* and *Commitment* (Nasi et al., 1997).

Table 1 : Stages of Social Issue Life Cycle

Phase	Descriptions
Phase 1 – <i>Policy</i>	<ul style="list-style-type: none"> Companies are merely paying lip service to environmental issues and no formal action is taken to deal with the issues. The management generally responds to environmental issue by offering a statement or policy pertaining to the company's commitment on such issue. There are no skilled personnel to deal with the issue as meeting public expectation is not an immediate concern.
Phase 2 – <i>Learning</i>	<ul style="list-style-type: none"> The environmental awareness begins to accelerate and companies would hire specialist/environmental professional to implement the company's environmental policy. However, the policy implementation is not integrated into the company's decision makings.
Phase 3 – <i>Commitment</i>	<ul style="list-style-type: none"> Environmental issues are incorporated into the company's business decision-makings and become the responsibility of the line managers. A supplementary environmental reporting and auditing practices are developed to educate the stakeholders about their environmental performance.

Given the features presented in Table 1, we argue that there is a relationship between EMA implementation and ER practices when companies are in the Commitment phase. This is because, it is the phase where environmental issues become the primary concern as they are being integrated into business decision-makings and

³ The four stages of issue development are first, a gap between public expectation and companies' performance, second, 'politicization' – a politician shapes a legislative for the issue (i.e. gap), third, 'legislative' – when regulations are enacted for the issue, and fourth, 'litigation' – when the relevant governmental agencies and companies work together for the specifics of the implementation (Mahon and Maddock, 1992, p. 22).

performance evaluation. This will subsequently provide more and relevant environmental information for reporting purposes. The reporting of EMA information to the stakeholders reflects the commitment towards the environment, beyond legitimation. This is in line with Gray's (1995b) organizational change model that suggests that the more committed the company towards the environment, the more environmental information will be reported (Tilt, 2006). On the contrary, the implementation of EMA is less likely for companies in the Policy and Learning phase as there is no urgent need for companies in both phases to adapt to the new management accounting technique. Thus, the absence of EMA would least stimulate the reporting of relevant environmental information of which will certainly affect the comprehensiveness and credibility of ER. Hence,

H1: Companies in the Commitment phase are more likely to report a greater quantity of ER than those in the Policy and Learning phase.

H2: Companies in the Commitment phase are more likely to report a greater quality of ER than those in the Policy and Learning phase.

4. CONCLUSION

This paper proposed a theoretical framework for investigating the relationship between EMA implementation and ER practices from a social issue life cycle theory perspective. The theory suggests that an issue evolves from being insignificant through a period of increased concern to a point where an established solution for the issue is available (Zyglidopoulos, 2003). From environmental issues standpoint, the implementation of EMA is the established solution to the issues given the deficiency of conventional accounting practices to capture environmental information (Burritt et al., 2002; Schaltegger et al., 2003). As companies seek to become more responsive and prudent towards the ever increasing environmental concerns, the integration of environmental information into business decisions makings will allow for a more efficient environmental and economic decision-making. Subsequently, this will enhance the availability of relevant environmental information for reporting purposes.

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