Can Management Accountants Play an Important Role in Moving Towards a Corporate Sustainability? : Evidence of Thailand

Neungruthai Petcharat
Graduate College of Management,
Sripatum University
E-mail: neungruthai.pe@spu.ac.th

Abstract

This study aims to examine (1) management accountants' roles in driving sustainable success to create a corporate sustainability, (2) environmental information in annual reports based on the indicators of the Global Reporting Initiatives (GRI) for effective management decisions, and (3) environmental information in the reports and the information identified by the environmental management accounting (EMA) practices. Management accountants drive as a collaborator with a company to provide environmental information incorporating in the reports for investment decisions. A set of survey is created to conduct environmental performance indicators in annual reports of 2011 and 2012 of two-hundred listed companies in Thailand. Regression analysis is considered appropriate for this study to analyse the relationship among variables. Positive accounting theory explains the findings. The results of the study reveal that environmental information incorporated in annual reports is positively relevant to the indicators of the GRI guidelines. Environmental information in the reports is also significantly related to the data identified based on the EMA practices for enhancement of management decisions. Management accountants' roles in driving sustainable success create sustainable value from providing quality data on environmental sustainability to incorporate in the corporate disclosures

Keywords : corporate sustainability, environmental management accounting (EMA) practices, environmental performance indicators

Introduction

The emergence of environmental performance and variations in its implementation has become increasingly important to create a corporate sustainability both immediately and in future (Watchaneeporn Setthasakko, 2010). Corporate sustainability creates long-term shareholder values from managing risks deriving from economic, environmental, and social improvements (Collins, Lawrence, Roper, & Haar, 2011). A balanced approach to environmental, economic, and social performance helps managers to enhance their business decisions (Schaltegger, 2004). Environmental data in a company's reports is now more important than ever to put into practice the concept of sustainable development, which integrates economic growth, social development, and protection of the environment (Muttanachai Suttipun & Stanton, 2012; UN, 2008). Management accountants play an important role in disclosing environmental sustainability thus acting as collaborators with a company to moving towards corporate sustainability (Zvezdov, 2012). Environmental accounting should be developed or designed as a business tool and mechanism such a conceptual model or framework to support their firms in achieving sustainability targets (Collins, et al., 2011). International measures are introduced as a guidelines to help reporting employee-friendly and environmentally aware in rder to ensure that business practices meet environmental and social development requirements (PricewaterhouseCoopers, 2013; Trotman, 1981). Environmental and social data in a company's reports need to respond to the efficiency of accounting data, as well as meeting the requirements of the Global Reporting Initiatives (GRI, 2011; PricewaterhouseCoopers, 2013). The environmental indicators of the GRI refers to the Material, Energy, Biodiversity, Emission and Wastes, Product and services, and Environmental management (GRI, 2011). In Thailand, the implementation of international measure such GRI guidelines appear less intention. The trend in using GRI guidelines for environmental reporting has risen up gradually (PricewaterhouseCoopers, 2013). Environmental management accounting (EMA) practices have been therefore used as a business strategy to develop environmental management and economic performance in order to reach sustainability goals (Bennett & James, 1998). EMA identifies and measure environmental information from unit inputs (materials, energy, and water) and product outputs (waste and emissions) in production processes (Jasch, 2009). Accounting sustainability such EMA helps measure quality data on environmental factors to incorporate in the reports (Panisara Kongpunya, Phapruke Ussahawanitchakit, & Chularat Khankaew, 2011). In Thailand, however, little is known about EMA practices for environmental cost identification. Companies are not creating relationship between accounting sustainability and quality of environmental data (Panisara Kongpunya, et al., 2011). Environmental information incorporated in a company's reports most likely focuses on the positive images and reputation thus supporting interests of stakeholders and public (Rowbottom & Lymer, 2009; Silalertruksa & Gheewala, 2012). Environmental information incorporated in a company's reports most likely focuses on the positive images and reputation thus supporting interests of stakeholders and public (Rowbottom & Lymer, 2009; Silalertruksa & Gheewala, 2012).

Purposes

This study seeks to examine management accountants' roles in creating a corporate sustainability in Thailand. Figure1 provides management accountants' roles in driving sustainable success to transition to a corporate sustainability. Current management accounting system within a company identifies and measures environmental data to incorporate in annual reports along with the indicators of the guidelines of the Global Reporting Initiatives. The indicators of the GRI guidelines provide a company with a way to fully report environmental information when promoting its environmental sustainability is achieved (PricewaterhouseCoopers, 2013). Environmental information captured from all sources of expenditures paid for environmental improvement including unit inputs— cost of physical quantities (e.g. materials, energy, air, and water and unit outputs)—and production processes (e.g. packaging materials, product in process, product design) (IFAC, 2005). Environmental indicators are also captured from non-production outputs including solid wastes, emissions, waste disposal, and/or waste created from producing products which it needs to be associated with environmental management accounting (EMA) perspectives (IFAC, 2005). Management accountants should have understanding about and knowledge of the adoption of sustainability accounting practices (Zvezdov, 2012) for environmental reporting. They should also act as a collaborator with a company in driving sustainable success when creating sustainable value in market. Management accountants should be involved in creating sustainable value while providing quality data to support financial disclosures and corporate social responsibility (CSR) reports (Collins, et al., 2011). As a result, sustainable companies reporting environmental performance based on the indicators of the Global Reporting Initiatives and EMA perspectives create shareholder value in the eye of stakeholders and market place.

Literature review

Management accountant's roles in a corporate sustainable value

To date, sustainability accounting practices are introduced to the sustainable development of firms to facilitate companies in dealing with sustainability issues (Zvezdov, 2012). Environmental information incorporated in a company's reports needs to be accurately identified and measured when employing to promote environmental sustainability for value creation (ICAEW, 2004; Neungruthai Nickie Petcharat, 2012; Schaltegger, 2004). Management accountants need to understand the challenge in the adoption of sustainability accounting practices (Zvezdov, 2012). In this relation, the connection between societal and economic progress is linked with business strategies and non-financial reporting. Management accountant's roles in moving toward a corporate sustainability should be involved in setting sustainability strategies, thus supporting firm to achieve the best sustainability outcomes (Cullen & Whelan, 2006). Environmental performance incorporated in the disclosures need to identify how a company achieves its sustainability for value creation. This creates an inspiration for sustainability practitioners to build the idea to lead to measure or identify environmental and social value along with economic efficiency. This can only support sustainable companies in Thailand to report more accurate accounting data on environmental facets to address stakeholders' and public's demands

(Neungruthai Petcharat & Mula, 2013). Thus, management accountant's roles drives as a collaborator with a company in capturing, identifying, and measuring environmental data based on environmental management accounting concepts/ practices. This would assist a company to move toward corporate sustainability as a business goal (Neungruthai Nickie Petcharat, 2012). They also fulfil their traditional role in identifying and measuring all sources of expenditures paid for environmental improvement (Collins, et al., 2011). In this relation, environmental management accounting should be developed or designed as a business tool and mechanism such a conceptual model or framework to support their firms in achieving sustainability targets (Collins, et al., 2011).

Environmental management accounting perspectives

Environmental management accounting (EMA) is designed as a business tool to not only manage costs of environmental protection but also provide environmental information to support financial reports for management decision in relation to environmental performance (Burritt & Saka, 2006). Environmental management accounting (EMA) provides a company with a way to identify and measure environmental indicators within and external organizations to support significant concerns of external stakeholders (governments, shareholders, etc.) (Burritt & Saka, 2006). In Thailand, little is known about environmental management accounting. Meanwhile, environmental accounting in Thai context is relevant to accounting performance disclosures along with a good environmental reporting policy (Panisara Kongpunya, et al., 2011). Thai companies have intended to create positive impacts on environment and society by reducing high levels of energy consumptions, as well as polluting less carbon emission in the air (Neungruthai Petcharat & Mula, 2013). Environmental performance in Thai context is reported to address increased concerns of stakeholders and public while creating companies images of environment-friendly organizations in marketplace (Connelly & Limpaphayom, 2004; Neungruthai Petcharat & Mula, 2013; Yongvanich & Guthrie, 2006). It would be greater benefits for a company, if management accounts for providing environmental information that having consistent with standards for financial statements and sustainability reports (ICAEW, 2004). This would give environmental information accuracy when reporting in both financial statements and other sustainability disclosures to create a corporate sustainability.

The implementation of the GRI guideline in Thailand

There is no present obligation and/or legal obligation in identifying or measuring environmental factors, under International Accounting Standard (IAS). Companies are however expected to take responsibility to reduce negative impacts on environment, as well as providing environmental expenditures in companies' disclosures (Moisescu & Mihai, 2006). In Thailand, incentives include subsidies to businesses to improve energy efficiency and emissions performance, and grants to protect wildlife, waterways and land used. Penalties are applied through government-imposed taxes. The implementation of international measures such GRI guidelines has not been much of interests to the

companies. The trend in using the GRI guidelines as basis for reporting environmental performance has risen up gradually between 2006 to recent years (PricewaterhouseCoopers, 2013). Meanwhile, due to the demand of stakeholders and publics, the trend in reporting environmental performance in sustainability reports has increased critically comparing with previous years (PricewaterhouseCoopers, 2013). Thai companies have identified environmental costs based on market mechanisms, as well as applying environmental management programs to achieve their sustainability goals (Nickie Petcharat & Mula, 2012; Nongnooch Kuasirikun, 2005; Setthasakko, 2009). Thus, insisting on looking at a products' or service's life cycle before procurement, this would identify if there is minimal impact on the environment due to contaminants, emissions, and wastes (Neungruthai Nickie Petcharat, 2012). The implementation of the GRI guidelines in this study aims to seek where data accuracy incorporated in environmental sustainability reports of construction companies. The indicators are divided into five categories including Materials, Energy, Biodiversity, Water, Emission and Wastes, Product and Service, and Environmental management. This would need cooperation between manufactures and policy makers to reduce negative impacts on environment when building a corporate sustainability.

A corporate sustainability in Thailand

In Thailand, a corporate responsibility agenda has been mainly driven by the concerns of developed countries to broaden the scope and content of mainstream CSR disclosures – economic, environmental, and social performance (Taweephol U., 2000). A corporate sustainability in Thai context is however not widely well-known (Neungruthai Petcharat & Mula, 2013). Companies appear lacking intention to report environmental performance along with eco-efficiency to add shareholder value in market place. Foreign investors have noticed that Thai economic and manufacturers have resulted in the depletion of natural resources including forests and rivers which create serious pollution in surrounding areas (Trotman, 1981). Environmental issues of Thai companies have been significantly concerned by foreign investors, particularly those related to quality of life and working standards of employees and environmental pollution. In dealing with this issue, governmental agencies have provided a better framework for more effective business practices when reporting accounting information on environmental effects. The emergence of CSR and variations in its implementation has become increasingly important to sustainable development of firms. The linkage between CSR and good corporate governance has been recognized as an important role of stakeholders engagement initiatives (Watchaneeporn Setthasakko, 2010). Thus, by providing unfaithful information in the mandatory and voluntary disclosure would not improve a company's image and/or reputation in long-term while creating shared value in the eye of stakeholders and market place would not be possible. Positive accounting theory (PAT) explains the choice of accounting practices such environmental management accounting that would help a company creates sustainable success thus moving towards a corporate sustainability.

Positive accounting theory (PAT)

Positive accounting theory is considered appropriate for this study as it attempts to make

good predictions of real life activities then translates them to accounting transactions (Watts & Zimmerman, 1990). While normative theories seek to provide guidance in selecting most appropriate accounting practices/procedures that recommend what should be done (Deegan, 2005). Watts and Zimmerman (1990) claimed that the theory explains the choice of accounting practices that yield benefits to a company or maximize prospective of its own wealth. Neu and Simmons (1996) claimed that the "cash value" of a social relations perspectives are consistent with the accounting for site restoration costs. The perspective of positive accounting theory explains the behaviour that can be influenced by the social relations (Neu & Simmons, 1996). Milne (2002) found that, in reviews of the literature seeking to establish evidence for a positive accounting theory of corporate social disclosures, the positive accounting theory of social disclosures mainly falls short of its endeavour. The empirical evidence also revealed that there was no distinct arguments provided to support the positive accounting theory based on social disclosures and self-interested managers' wealth maximizing (Milne, 2002). In this study, positive accounting theory explains management accountants' roles in identifying and measuring environmental expenditures to incorporate in a company's reports. Management accountants drive as collaborators with a company to incorporate data accuracy on environmental performance thus moving towards a corporate sustainability.

Research question and Hypothesis

Based on the gaps in the literature presented above, one general research question is set, RQ: Can management accountants' roles drive as collaborators with a company to create a corporate sustainability? This study expects tests the following three hypotheses:

H1: *Environmental indicators in annual reports is positively related to the indicators of the Global Reporting Initiatives*

H2: *Environmental indicators in a company's reports are captured along with the environmental management accounting concepts for sustainable management decisions*

H3: *Management accountants' roles in driving sustainable success positively create environmental data in a corporate sustainability reports*

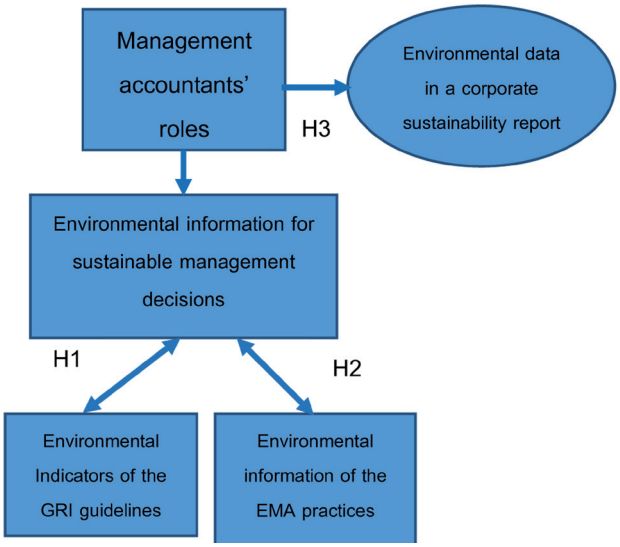

Figure 1: A Framework for Management Accountants' Roles in Driving a Corporate Sustainability

Benefit of Research

The results of the study would be of benefits to a company and its management accountants as follow:

1. Help measuring environmental indicators for a corporate sustainability reporting.

2. Provide sustainable companies with a way to enable more decision-making as well as improving data available to investors.

3. Create understanding for management accountants to identify and measure environmental data along with the indicators of the GRI guidelines

Research Process

This study employed quantitative research methods to analyse data collected from two-hundred companies in Thailand. A stepwise multiple regression analysis methods were applied to test hypothesises and evaluate the independent variables entered according to their statistical contribution in explaining the variance in the dependent variables. This study started collecting data in October and finished in December, 2013.

Population and Sample

Purposive sampling methods were employed to select two-hundred companies those incorporated environmental information in annual reports disclosures for quantitative study. Companies from industrial products (54), consumer products (17), construction (65), agriculture and food product (30), and technology (34) were targeted.

Instruments

A set of questions in a survey was created from environmental performance indicators of the Global Reporting Initiatives. This included the indicators of the Material, Energy, Biodiversity, Water, Emission and Wastes, Product and Service, and Environmental management (GRI, 2011). Questions were created to investigate a number of words of environmental information in annual reports. Environmental information identified in the annual reports in relation to the use of material, energy reduction, biodiversity management, water consumptions, emission and waste management, environmental improvement identified from product and service, and environmental management program.

Data Analysis

The prediction consists of environmental indicators including use of material, energy consumptions, biodiversity management, water reduction, emission reduction and wastes management, environmental improvement identified from product and service, and environmental management program) in annual reports and the indicators (e.g. Material, Energy, Biodiversity, Water, Emission and Wastes, Product and Service, and Environmental management) of the Global Reporting and was reach in three steps with no variables removed.

The results show that H1 is statistically significant (Table 1), and accounted for the variance of environmental indicators of the GRI (R-square = .950). Shows the beta coefficient is .934 and the predictors of the t-analysis is 61.017. The relationship is statistically significant at the 0.01 level. It determines that indicators of the GRI guidelines are related to the environmental data in annual reports of a sampling group. Thus, **H1,** *Environmental data in annual reports is positively related to the indicators of the Global Reporting Initiatives is supported.*

Table 1: Environmental Indicators in Annual Reports and the Indicators of the GRI Guidelines

	Variable	H_1		H_2		H_3	
		Beta	*t*-statistic	Beta	*t*-statistic	Beta	*t*-statistic
Dependent	Env. GRI						
	Constant	.056	1.582				
	Predictors: Annual reports	.934*	61.071				
Dependent	EMA practices						
	Constant			.007	1.315		
	Predictors: Annual reports			1.003*	434.045		
Dependent	Env. corporate sustainability						
	Constant					.006	.295
	Predictors: Management					1.029*	105.168
	accountant's roles						
	F value	3729.71*		188395.0*		1.1064*	
	R^2	.950		.999		.982	
	Constant	.056		.007		.006	

* Statistically significant at 0.01

This study further analysed environmental indicators in a company's reports whether captured based on the information based on the environmental management accounting (EMA) practices. The prediction consists of environmental data in annual reports and the information captured based on the EMA practices and was reach in three steps with no variables removed. The results show that H2 is statistically significant and accounted for the variance of environmental data identified by the EMA concepts/ practices (R-square = .999). The beta coefficient is 1.003 and t-analysis is 434.045. The relationship is statistically significant at the 0.01 level. It determines that the predictors of environmental data identified by the EMA practices are positively related with the environmental data in annal reports of a sampling group. Thus, **H2,** *Environmental indicators in a company's reports are captured along with the environmental management accounting concepts for sustainable management decision is supported.*

In addition, management accountants' roles in acting as collaborators with a company to drive sustainable success to transition to a corporate sustainability were examined. The prediction consists of environmental data in the annual reports for sustainable value creation and was reach in three step with no variables removed. The results show that H3 is statistically significant .01 level and accounted for the variance of management accountant's roles (R-square=.982). In addition, the beta coefficient is 1.029 and the relationship is statistically significant at the .01 level. Thus, **H3,** *Management accountants' roles in driving sustainable success positively create environmental data in a corporate sustainability report is also supported.*

Conclusion

This study concludes that environmental performance indicators in annual reports of a sampling group are relevant to the indicators of the Global Reporting Initiative (GRI) that most widely used standardized sustainability reporting framework. Environmental information captured by the current accounting system is also relevant to the information of the environmental management accounting (EMA) practices. Although management accountants are not fully involved in reporting environmental performance, they are driving as collaborators with a company to create sustainable success. Management accountants indicated their roles in building inspiration to measure environmental indicators. They were aiming to create quality data on environmental factors to incorporate in corporate sustainability reports. They also identified their roles in enhancing shareholder value from measuring environmental indicators within production process. Thus, by reporting more accurate data on environmental aspects, this helps sustainable companies to establish ecosystem and provide transparency into environmental aspects to maintain their own sustainability transformation. The results of the study contribute to the literature that management accountants play an important role in moving towards a corporate sustainability and driving sustainable success (Zvezdov, 2012). Management accountants need to be involved in preparing environmental information in corporate disclosures which it aims to achieve the best sustainability outcomes (Collins, et al., 2011; Cullen & Whelan, 2006; Zvezdov, 2012). In this relation, accounting sustainability such EMA practices provides companies with a way to create quality data on environmental factors in the corporate disclosures (Kongpunya, et al., 2011). This is consistent with positive accounting theory (PAT) the choice of accounting practices can create benefits to a company to maximize prospective of its own wealth (Watts & Zimmerman, 1990). In addition, the implementation of the GRI guidelines need to be introduced to the sustainable companies in to create sustainable success (Neungruthai Petcharat & Mula, 2013; Nongnooch Kuasirikun, 2005; Pareena Prayukvong & Olsen, 2014; Pricewaterhouse-Coopers, 2013; Watchaneeporn Setthasakko, 2010; Yongvanich & Guthrie, 2006). By having the right choice of accounting system such EMA practices, companies not only create more accurate data on environmental aspects to enable more effective decisions-making but also improving data available to investors. The roles of management accountants drive as collaborators within a company to move towards a corporate sustainability when reporting environmental performance along with the indicators of the GRI guidelines. This includes use of material, energy reduction, biodiversity, water consumption, emissions and wastes management, environmental improvement identified from product and service, and environmental management programs. This would help promote how a company creates sustainable success that transitioning to a corporate sustainability effectively.

Recommendation

This study is limited to the survey on environmental data incorporated in annual reports of two-hundred listed companies in Thailand. Future research should select a sampling group using different methods such as simple random sample to see where data collection available for an investigation.

In-depth interview should be considered for qualitative data collection for future study. Management accountants should be targeted to participate in the interview. Future research should also study management accountants' roles in making better quality data to for investment decision and reporting purposes. Sustainability management accounting practices and its cost identification and measurement should be fully examined for future study.

References

Bennett, & James. 1998. **The Green Bottom Line: current practice and future trends in environmental management accounting** (editors ed.). Sheffield: Greenleaf Publishing.

Burritt, R. L., & Saka, C. 2006. Environmental management accounting applications and eco-efficiency: case studies from Japan. **Cleaner Production,** 14(0), 1262-1275.

Collins, E., Lawrence, S., Roper, J., & Haar, P. J. 2011. **Sustainability and the role of the management accountant Research executive summary series.** (Vol. 7). London: Chartered Institute of Management Accountants.

Connelly, T. J., & Limpaphayom, P. 2004. Environmental Reporting and Firm Performance: Evidence from Thailand. **Journal of Corporate Citizenship,** 13(0), 137-149.

Cullen, D., & Whelan, C. 2006. Environmental Management Accounting: The State of Play **Journal of Business & Economics Research** 4(10), 1-4.

Deegan, C. 2005. **Australian Financial Accounting.** Australia: McGraw-Hill Australia Pty Ltd

GRI. 2011. **Indicator Protocols Set Environment (EN) Mining and Metals Sector Supplement.** Retrieved 12 July, 2010, from http://www.globalreporting.org/ReportingFramework/ReportingFrameworkDownloads/

ICAEW. 2004. **Sustainability: The Role of Accountants & Sustainable Business Initiative.** London: Institute of Chartered Accountants in England & Wales.

IFAC. 2005. **Environmental Management Accounting.** (pp. 19, 22- 23, 26-27). New York: International Federation of Accountants.

Jasch, C. 2009. **Environmental and Material Flow Cost Accounting: Principles and Procedures Vienna,** Austria: Springer

Milne, M. J. 2002. Positive accounting theory, political costs And social disclosure analyses: a critical look. **Critical Perspectives on Accounting,** 13(3), 369-395. doi: http://dx.doi.org/10.1006/cpac.2001.0509

Moisescu, F., & Mihai, O. 2006. Environmental Financial Accounting. **Economics and Applied Informatics,** (1), 79-84.

Muttanachai Suttipun, & Stanton, P. 2012. A study of Environmental Disclosures by Thai listed Companies on Websites. **Procedia Economics and Finance,** 2(0), 9-15. doi: http://dx.doi.org/10.1016/S2212-5671(12)00059-7

Neu, D., & Simmons, C. 1996. Reconsidering The "Social" in **Positive Accounting Theory: The Case of Site Restoration Costs Critical Perspectives on Accounting,** 7(4), 409-435. doi: http://dx.doi.org/10.1006/cpac.1996.0044

Neungruthai Nickie Petcharat. 2012. Moving toward a More Sustainable: CSR Development in Thailand. **Global Review of Accounting and Finance,** 5(2), 16-35.

Neungruthai Petcharat, & Mula, J. 2013. Toward a Conceptual Model for Sustainability Financial Reporting System. Paper presented at the AFAANZ Conference, Perth Australia (7-9 July, 2013)

Nickie Petcharat, & Mula, J. M. 2012. Toward a Conceptual Design for Environmental and social Cost Identification and Measurement. **Journal of Financial Reporting and Accounting,** 10(1), 34-54.

Nongnooch Kuasirikun. 2005. Attitudes to the development and implementation of social and environmental accounting in Thailand. **Critical Perspectives on Accounting,** 16(8), 1035–1057.

Panisara Kongpunya, Phapruke Ussahawanitchakit, & Chularat Khankaew. 2011. Building accounting sustainability of listed firms in Thailand: how does it affect accounting disclosure and disclosure quality? . **Journal of Academy of Business and Economics,** 11(1). Retrieved from http://www.freepatents online.com/article/Journal-Academy-Business-Economics/260873286.html

Pareena Prayukvong, & Olsen, M. 2014. Research on the CSR Development in Thailand By The NETWORK of NGO and Business Partnership for Sustainable Development (Thailand): UN Volunteers.

PricewaterhouseCoopers. 2013. **Still a long way to thai business sustainability.** Retrieved 25 January 2014, from http://www.bangkok post.com/business/news/347652/still-a -long-way-to-thai-business-sustainability

Rowbottom, N., & Lymer, A. 2009. Exploring the use of online corporate sustainability information. **Accounting Forum,** 33(2), 176-186. doi: http://dx.doi.org/10.1016/j. accfor.2009.01.003

Schaltegger, S. 2004. **Sustainability Accounting and Reporting.** Retrieved 28 July, 2009, from www.uni-lueneburg.de/csm

Setthasakko, W. 2009. Barriers to implementing corporate environmental responsibility in Thailand: A qualitative approach. **International Journal of Organizational Analysis,** 17 (3), 169 - 183.

Taweephol, U. 2000. Environmental Accounting: A case study of the development of a model for the preparation and disclosure of information about the environment in the financial reports of companies listed on the Stock Exchange of Thailand. Master of Business Administration, University of Chamber of Commerce., Bangkok, Thailand.

Thapat Silalertruksa, & Gheewala, S. H. 2012. Environmental sustainability assessment of palm biodiesel production in Thailand. **Energy,** 43(1), 306-314. doi: http://dx.doi.org/10.1016/ j.energy.2012.04.025

Trotman, K. T. 1981. Associations between social responsibility disclosure and characteristics of companies. **Accounting, Organizations and Society,** 6(4), 355–362.

UN. 2008. **Achieving Sustainable Development and Promoting Development Cooperation: Dialogues at the Economic and Social Council.** New York: United Nations, Economic & Social Affairs

Watchaneeporn Setthasakko. 2010. Barriers to the development of environmental management accounting An exploratory study of pulp and paper companies in Thailand. **EuroMed Journal of Business,** 5(3), 315-331.

Watts, R. L., & Zimmerman, J. L. 1990. Positive Accounting Theory: A Ten Year Perspective. **The Accounting Review,** 65(1), 131-156.

Yongvanich, K., & Guthrie, J. 2006. An extended performance reporting framework for social and environmental accounting. **Business Strategy and the Environment,** 15(5), 309-321.

Zvezdov, D. 2012. Corporate sustainability accounting: beyond unfreezing. **Journal of the Asia-Pacific Centre for Environmental Accountability,** 18(3), 181-198.