

The Relationship Between Corporate Environmental Disclosures and Financial Performance in Thailand: A Comparative Study of Companies in the Stock Exchange of Thailand Between Property and Construction, and Agriculture and Food Industries

ความสัมพันธ์ระหว่างการเปิดเผยข้อมูลสิ่งแวดล้อมและผลการดำเนินงานทางการเงินของบริษัทในประเทศไทย : กรณีศึกษาเปรียบเทียบบริษัทที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย ระหว่างอุตสาหกรรมอสังหาริมทรัพย์และการก่อสร้าง และอุตสาหกรรมเกษตรและอาหาร

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ABSTRACT

This study aims to investigate the extent of environmental disclosures in the 2006 and 2011 annual reports of companies listed on the Stock Exchange of Thailand (SET) between the property and construction sector, and the agriculture and food sector, to test for a positive relationship between the environmental disclosures, and corporate financial performance. The population of this study is all the Thai listed companies in the property and construction sector, and the agriculture and food sector. By using simple random sampling, 90 companies are selected as the samples. The annual reports are used to collect data by scoring of the quantity of disclosures. The study's findings indicate that the most common disclosures are in the mandatory reporting issues such as environmental policy, environmental management systems, and pollution management systems. There has been an increase in environmental disclosures in annual reports between 2006 and 2011 in both sectors. However, no significant differences are found between the property and construction sector and the agriculture and food sector in either year. Finally, there is no significant relationship between environmental disclosures, and corporate financial performance.

Keywords: Environmental Disclosures, Annual Reports, Legitimacy Theory

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาขอบเขตของการเปิดเผยข้อมูลสิ่งแวดล้อมในรายงานประจำปี พ.ศ. 2549 และ พ.ศ. 2554 ของบริษัทที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยระหว่างอุตสาหกรรมอสังหาริมทรัพย์และก่อสร้าง และอุตสาหกรรมเกษตรและอาหาร รวมทั้งทดสอบความสัมพันธ์ระหว่างการเปิดเผยข้อมูลสิ่งแวดล้อมและผลการดำเนินงานทางการเงินของบริษัท ประชากรที่ใช้ในการศึกษาคือ บริษัทที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยระหว่างอุตสาหกรรมอสังหาริมทรัพย์และก่อสร้าง และอุตสาหกรรมเกษตรและอาหาร กลุ่มตัวอย่างจำนวน 90 บริษัท ถูกเลือกโดยวิธีการสุ่มตัวอย่างแบบง่าย การเก็บข้อมูลทำโดยการให้คะแนนการเปิดเผยข้อมูลสิ่งแวดล้อมในรายงานประจำปี ผลการศึกษาพบว่าหัวข้อที่ได้คะแนนการเปิดเผยข้อมูลสิ่งแวดล้อมมากที่สุดคือ นโยบายสิ่งแวดล้อม ระบบการจัดการสิ่งแวดล้อม และระบบการจัดการมลภาวะ นอกจากนี้การเปิดเผยข้อมูลสิ่งแวดล้อมยังมีความสัมพันธ์ที่เพิ่มขึ้นระหว่างปี พ.ศ. 2549 และ พ.ศ. 2554 ของบริษัทในทั้ง 2 กลุ่มอุตสาหกรรม อย่างไรก็ตามการศึกษานี้พบความแตกต่างในการเปิดเผยข้อมูลสิ่งแวดล้อมระหว่างบริษัทในกลุ่มอุตสาหกรรมทั้ง 2 อุตสาหกรรม นอกจากนี้ยังไม่พบความสัมพันธ์ระหว่างการเปิดเผยข้อมูลสิ่งแวดล้อมและผลการดำเนินงานทางการเงินของบริษัท

คำสำคัญ : การเปิดเผยข้อมูลสิ่งแวดล้อม รายงานประจำปี ทฤษฎีความชอบธรรม

INTRODUCTION

Nowadays, social and community expectations are more complex and critical especially in respect of corporate environmental responsibility. Corporations are blamed by society and stakeholders for environmental problems such as global warming and pollution, caused by economic development. Therefore, corporations have to direct their actions and activities towards environmental issues as well as economic issues, and this includes making disclosures regarding matters affecting the environment. Moreover, the disclosure of information relating to the environment has become mandatory in developed countries such as the USA, Canada, Australia, Japan, and some countries in the European Union (Camfferman & Cooke, 2002; Deegan & Gordon, 1996; Monteiro & Guzman, 2010). However, because environmental disclosures in Thailand were a form of voluntary reporting at the time previous studies were conducted, the extent, and content of environmental disclosures is unclear.

Although many regulations about environmental issues have been promulgated by Thai government organizations such as the Stock Exchange of Thailand (SET), the Ministry of Natural Resources and Environment, and the Ministry of Industry, no previous study has recorded whether corporate environmental disclosures in Thailand were still voluntary or had already become mandatory at the time the studies were conducted. Further, no previous study has compared environmental disclosures by Thai listed companies between different industry groups. Therefore, this study investigates and compares the extent of environmental disclosures made by companies listed on the SET in the property and construction, and agriculture and food sectors in 2006 and 2011 annual reports. Moreover, the study also aims to examine for a possible relationship between the environmental disclosures, and corporate financial performance. The framework of the study indicates in Figure 1.

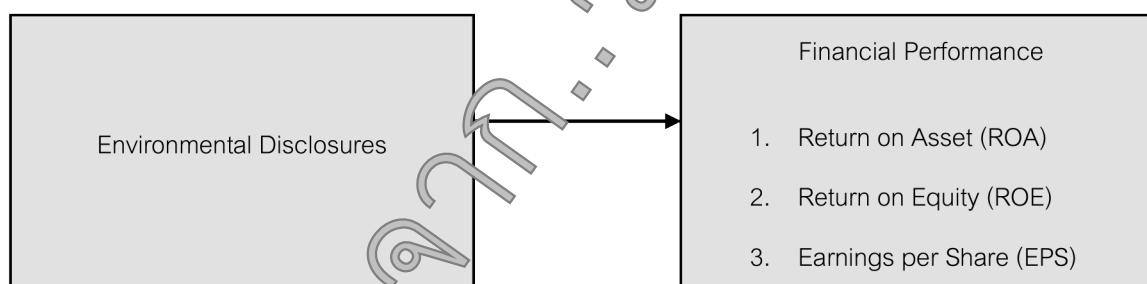


Figure 1: Framework of this study

There are four main research questions in this study: 1) What is the extent of environmental disclosures in the 2006 and 2011 annual reports of listed companies in the SET? 2) Are there within group differences between the environmental disclosures made in the annual reports of companies in the property and construction sector, and in the agriculture and food sector between 2006 and 2011? 3) Are there between group differences in the environmental disclosures in the annual reports of companies in the property and construction sector, and the agriculture and food sector? and 4) Is there relationship between the environmental disclosures, and corporate financial performance?

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The study provides important information for policy makers such as the SET, the Ministry of Natural Resources and Environment, and the Ministry of Energy which help them to improve and develop environmental reporting regulations for Thai listed companies. The study also considers how appropriate legitimacy theory is able to explain the behavior of companies in Thailand as well as in developed countries. The paper begins with a review of the theoretical perspective. Review of relevant literature and research hypotheses development is explained. The research method is set out including data and sample, variable measurement and data analysis. The study's findings and conclusions are then outlined, and the paper ends with the study's conclusions, implications, limitations, and some suggestions for future research.

THEORETICAL PERSPECTIVE

There are many different theoretical perspectives that have been used to explain corporate environmental disclosure. Some researchers have cited political economy theory to explain environmental accounting (Williams, 1999) as well as social political theory (Huang & Kung, 2010). Some researchers have used media agenda setting theory to explain how the media influence corporate environmental disclosure (Brown & Deegan, 1998). Others have used stakeholder theory to explain how and why companies provide environmental information to meet their stakeholder's demands (Ratanajongkol et al., 2006). However, the most complete theoretical perspective of corporate motivations for disclosures offered in the environmental accounting literature is legitimacy theory.

Legitimacy theory has been cited in many previous studies related to environmental disclosure practices. Many researchers have noted that corporations seek to legitimise their activities and actions because corporate management must react to social and community expectations (Guthrie & Parker, 1990; Hogner, 1982; Patten, 1992; Tilt, 1994). Deegan and Rankin (1996) postulated that legitimacy theory explains corporate environmental responsibility disclosure practices noting that these are responsive to environmental group pressures. Campbell et al. (2003) suggested that legitimacy theory can be used to explain how the gap between company actions and social concerns is being narrowed or closed. Corporations have to find a balance between social and community perceptions, and their activities or actions (Deegan et al., 2000; Hogner, 1982). Legitimacy theory places stress on how corporate management reacts to community expectations (Guthrie & Parker, 1990; Patten, 1992; Tilt, 1994) and annual or environmental reports are a means of reinforcing responsible corporate environmental behaviour (Deegan & Rankin, 1996; Patten, 1992). Legitimacy theory has also been used to analyse the various strategies which management may choose in order to remain legitimate (Deegan, et al., 2000; Patten, 1992). O'Donovan (1999) stated that legitimacy theory could explain why companies report environmental information. Corporate managements believe that they must act and react towards society with socially acceptable behaviour which can enhance the success of their business. Many previous studies (Deegan, 2002; Hogner, 1982; O'Donovan, 2002; Wilmshurst & Frost, 2000) have identified the forms of corporate environmental disclosures which have appeared in company annual reports, and these have been explained by the researchers as being part of the portfolio of strategies undertaken by business managers to bring legitimacy to their corporations. Next, previous studies related to environmental disclosures in Thailand are reviewed including hypotheses development.

LITERATURE REVIEW AND RESEARCH HYPOTHESES DEVELOPMENT

There were several studies related to environmental disclosures in Thailand during a decade of 2002-2012. Kuasirikun and Sherer (2004) studied environmental disclosures in Thai corporate annual reports in 1993 and 1999. Based on the sample studied, they found that there was a slight increase in the percentage of companies making environmental disclosures, from 44 to 45 percent. Further, based on a survey of 40 Thai corporate annual reports in 1997, 1999, and 2001, Ratanajongkol et al. (2006) found that there was a decrease in environmental disclosures by Thai listed companies and Rahman et al. (2010) who studied 37 Thai corporate annual reports in 2006, could not find any relationship between environmental disclosures in the annual reports, and financial performance. Suttipun and Stanton (2012A) investigated the reasons for environmental disclosure and non-disclosure by companies in Thailand and found that legal obligations, increasing customer loyalty and competitive advantage were the main reasons for making disclosures. On the other hand, the most common reasons for not making environmental disclosures were that the companies felt they had no environmental impact, and that there were no environmental regulations or standards in Thailand. In addition, by studying the 50 largest Thai companies' annual reports and websites in 2010, Suttipun and Stanton (2012B) found that 96 percent of companies made environmental disclosures in their annual reports, and 88 percent made such disclosures on their websites. Disclosures relating to environmental activity, waste management, and environmental policy were the most common made in both annual reports and on websites. Moreover, there was a significant relationship between the amount of environmental disclosure both in annual reports and on websites and the type of industry, the ownership status, and the type of audit firm used.

From the prior studies related to environmental disclosures by listed companies in Thailand, there are three main hypotheses: the different environmental disclosures between companies in both property and construction, and agriculture and food sectors; the different environmental disclosures between 2006 and 2011, and the relationship between environmental disclosures in annual reports and corporate financial performance. For the first hypothesis, Choi (1999), and Haskston and Milne (1996) classified companies investigating environmental disclosures into two types: high and low profile companies. High profile company is a company that has highly affected on environmental impacts (Ho and Taylor, 2007). On another hand, company that has a little environmental impact is called as low profile company (Newson & Deegan, 2002). In previous studies, most studies found the different environmental disclosures between high and low profile companies (see Choi, 1999; Newson & Deegan, 2002). But, Suttipun (2012) did not found the differences between both companies in Thailand. Therefore, this study uses companies in the property and construction sector as low profile companies, and companies in the agriculture and food sector as high profile companies (See Choi, 1999; and Newson & Deegan, 2002). This is because the main income of Thailand is generated by these two sectors (SET, 2013). Therefore, the study will hypothesis whether:

H1: there are the different environmental disclosures between companies in both property and construction (low profile company), and agriculture and food (high profile company) sectors.

Even though most previous studies found no differences of environmental disclosures between age of company (see Choi, 1999; Cowen et al., 1987), the legitimacy theory used in this study can explain that the

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longer age company will provide more level of mandatory and voluntary information disclosures than the shorter age company (Deegan & Rankin, 1996). However, age of company and environmental disclosures in annual reports of Thai companies have never tested yet. Therefore, this study will test whether:

H2: there are the different environmental disclosures in annual reports between 2006 and 2011.

For the relationship between the environmental disclosures and corporate financial performance, there are more than 100 empirical literatures. However, the results were still mixed (Garcia-Castro et al., 2010). For example, Cohen et al. (1997) found that there was a positive correlation between the environmental disclosures and corporate financial performance. Cohen et al. (1997) also mentioned that companies, which can reduce social and environmental problems such as natural pollutions may able to increase and improve their effective production, reputation, and competitive advantage. Therefore, companies may earn more profit to their business than social and environmental disclosure cost. Nakao et al. (2007) also found that environmental performance can positively influence financial performance as well as Konar and Cohen (2001). Conversely however, Wright and Ferris (1997) found a negative relationship between CSR reporting and corporate financial performance of South African companies during 1987 to 1990. On the other hand, some studies have found that there is no significant relationship between environmental disclosures and corporate financial performance in developing countries (See Rahman et al., 2010; and Aras et al., 2009). Return on assets (ROA) (See Aras et al., 2009; and Bhagat & Bolton, 2008), return on equity (ROE) (See Margolis & Walsh, 2001; and Rahman et al., 2010), and earnings per share (EPS) (See Dragomir, 2010) were used to measure the corporate financial performance. Therefore, this study will test whether:

H3: There is a positive relationship between environmental disclosures in annual reports and corporate financial performance (ROA, ROE, and EPS).

RESEARCH METHODS

The population of this study is all the Thai listed companies in the property and construction sector, and the agriculture and food sector. These sectors were selected for study because the main income of Thailand is generated by these two sectors (SET, 2013). Moreover, the property and construction sector is regarded as being lowly environmentally sensitive (low profile industry), but the agriculture and food sector is in highly environmentally sensitive (high profile industry) (Stray & Ballantine, 2000; Ho & Taylor, 2007; Suttipun, 2012). By using simple random sampling, 90 companies are selected as the research sample. The 2006 and 2011 annual reports were used to collect data and a score assessed based on the quantity of the disclosures. Corporate annual reports are used in this study because they represent a form of statutory reporting incorporating both mandatory and voluntary disclosures. Moreover, they can be accessed more easily than other media such as websites or standalone reports. Finally, they are widely recognised as the principal means for corporates to communicate their activities and intentions (Wiseman, 1982).

The reason for using the 2006 annual reports is that this was the last year before the SET launched a revised version of the principles of good corporate governance for Thai listed companies which required that boards of directors should set clear policies on social and environmental issues as well as making disclosures. Further, in 2011, environmental disclosures in annual reports of listed companies in the SET were changed to mandatory reporting under the topics of stakeholder roles in annual reports (SET, 2013). Therefore the year 2011 is selected as the second year for which environmental disclosures in annual reports were changed from voluntary to mandatory disclosures.

In scoring the disclosures, most reporting items about non-monetary information were scored on a scale of 0 – 4 based on the UNEP/SustainAbility (1996) criteria, but monetary information were scored dichotomously as either 0 or 1 (Jones & Alabaster, 1999). The scale (shown in Table 2) is based on the principle that more complete and comprehensive information relating to a given reporting item received a higher score. Therefore, a score of 0 means that the corporation did not report any information relating to an item while a score of 4 means that comprehensive coverage is given on that item. Jones and Alabaster (1999) suggested a scoring system using a nominal scale, or, at best, an ordinal one. Under that scheme each item is classified into one of five possible and mutually exclusive categories. As Jones and Alabaster (1999) note, the problem with this scheme is that one cannot legitimately aggregate or average the scores for a given item or section across reports, in contrast to the SustainAbility criteria (UNEP/SustainAbility, 1996). However, it is sometimes more appropriate, and more useful from an analytical viewpoint, to report disaggregated frequencies. The danger with aggregated scores is that they tend to shift attention away from what is not being reported, and from the quality of the items being reported. Aggregate scores derived from annual reports can hide the fact that two reports, while apparently receiving equal mid-level scores, are vastly different in terms of the breadth of coverage versus the quality of the coverage. Aware of these issues, this study reported both aggregate scores and disaggregated frequencies, and the researcher considered the type of scoring when considering each of the items on each aspect of environmental disclosure. For example, environmental award was scored dichotomously as 0 or 1 because this item could only indicate whether there is or is not an environmental award referred to in a corporate annual report. On the other hand, environmental audit will be scored on a scale of 0 – 4 because the information can be classified based on the UNEP/SustainAbility (1996) criteria. Thus, the scoring in this study takes consideration of both the quantity and quality of environmental disclosures in annual reports. In terms of testing relationship between environmental disclosures and financial performance, there are three explanatory variables to measure the corporate financial performance that consists of return on assets (ROA) (See Aras et al., 2009; and Bhagat & Bolton, 2008), return on equity (ROE) (See Margolis & Walsh, 2001; and Rahman et al., 2010), and earnings per share (EPS) (See Dragomir, 2010). ROA is calculated as net income over total equity. ROE is calculated as operating income over total assets, and earnings per share is used the proxy of earnings per share.

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Table 1: UNEP/Sustainability Reports Scoring Criteria

Score	Type of Disclosures
0	No coverage
1	Minimum coverage, and little detail
2	Detailed and honest, including company shortcomings and commitment
3	Commitment to and progress towards sustainable development in core business
4	Commitment to and progress towards sustainable development in core business plus benchmarking against competition and/or best practice in other sectors

Source: UNEP/Sustainability (1996)

The research instrument used in this study was adapted from previous studies (Suttipun & Stanton, 2012B; Monteiro & Guzman, 2010; Deegan & Gordon, 1996) includes 17 topics which are used to categorise environmental information in annual reports. They are:

1. Environmental policy including a list of environmental objectives, environmental issues of concern, and the prioritisation of environmental issues in term of their impacts;
2. Environmental management systems including ISO14000 and responsible persons;
3. Risk management including environmental impact assessments;
4. Environmental audits;
5. Goals and targets including performance against targets, and actions taken;
6. Inputs including R&D, energy management, and non-renewable resources used;
7. Processes, including technology employed, and capital equipment;
8. Product stewardship including life cycle analysis, and eco-labelling;
9. Waste management, including recycling, reduction, and reuse;
10. Pollution management including land rehabilitation and remediation, air emissions, water effluent, spills, and noise and odours;
11. Environmental activities;
12. Rehabilitation costs consisting of operating costs, provisions, and contingent liabilities;
13. Environmental cost accounting system;
14. Sustainable development reporting, including a statement that the company subscribes to the principle of sustainable development, details of the principle, attempts to connect environmental and economic dimensions, the impact on the biosphere and habitat carrying capacity, natural trust accounts, eco-asset sheets, and natural capacity;
15. Environmental education and training;
16. Environmental awards; and
17. Litigation about environmental issues.

All the data is hand-collected twice by the researcher and assistance researcher (master degree student who has had two years on research experience). The data are analysed using the SPSS statistical software package, version 21. The study uses descriptive statistics to represent the extent of environmental disclosures in the 2006 and 2011 annual reports of 90 Thai listed companies. To test whether there are differences between companies in the property and construction sector and the agriculture and food sector between 2006 and 2011, the study uses paired samples t-test. In addition, independent sample t-tests are used to detect significant differences between companies within the property and construction and agriculture and food sectors. Pearson's correlation is used to test for a relationship between score of environmental disclosures and corporate financial performance.

FINDINGS AND DISCUSSIONS

From the sample of 90 companies, there were 70 companies (77.8 percent) in 2006 providing environmental disclosures in annual reports, but all the firms (100 percent) made the disclosures in 2011. This is because the revised version of the principles of good corporate governance promulgated by the SET requires all companies to provide environmental information in their annual reports since 2011 under the topic of stakeholder roles (community, society, and environment) in corporate governance topic (SET, 2013). Therefore, although environmental disclosures in Thailand were voluntary disclosures in 2006, the disclosures have changed to mandatory disclosures for all Thai listed companies in the SET since 2011. The sample was separated into the two industry sectors and as can be seen from table 2, there were 56 companies in the property and construction sector, and 34 companies in the agriculture and food sector, whose environmental disclosures were analyzed and scored.

As can be seen the environmental disclosures in the annual reports of companies in the agriculture and food sector provided disclosures of higher quantity than those of the companies in the property and construction sector in both 2006 and 2011. This is because companies in the agriculture and food sector (high profile companies) have to comply with more environmental regulations than do companies in the property and construction sector (low profile companies). For example, water quality management and water pollution both fall under the jurisdiction of the Ministry of Industry which has promulgated regulations to control waste water from factories which require companies that operate factories to provide environmental disclosures.

In the property and construction sector (see Table 2), the results indicated that the most common topics for disclosures in both 2006 and 2011 were environmental policy, environmental management systems, pollution management, risk management, and waste management. Moreover, the trend of disclosures was for them to increase between 2006 and 2011 particularly since some reporting had become mandatory. For example, Thai listed companies are now required to disclose information about their environmental policies in their annual reports under the revised version of the corporate governance regulations. Moreover, the Ministry of Natural Resources and Environment has passed the National Environment Quality Act in order to manage and control four types of pollution in Thailand: water, noise, air, and other environmental pollution, and this act require environmental disclosures to be made by companies.

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Table 2: The average score for environmental disclosures in annual reports

Topic of Environmental Disclosures	Industry (Scoring)			
	Property and Construction		Agriculture and Food	
	2006	2011	2006	2011
Environmental policy	0.71	1.07	0.56	1.41
Environmental management system	0.68	0.72	0.67	1.11
Risk management	0.21	0.39	0.03	0.09
Environmental audit	0.09	0.30	0.20	0.29
Environmental goals	0.04	0.18	0.21	0.18
Input i.e. R&D, energy management	0.14	0.30	0.18	0.41
Process i.e. green technology	0.12	0.11	0.26	0.44
Output i.e. green product	0.02	0.09	0.00	0.18
Waste management	0.21	0.26	0.62	0.56
Pollution management	0.45	0.45	1.15	1.26
Environmental activities	0.16	0.23	0.09	0.82
Rehabilitation costs	0.02	0.04	0.24	0.03
Environmental cost accounting system	0.00	0.00	0.00	0.00
Sustainable development reporting	0.02	0.07	0.00	0.12
Environmental training	0.07	0.39	0.15	0.29
Environmental award	0.13	0.18	0.12	0.29
Environmental litigation	0.02	0.04	0.06	0.09
Total	3.04	4.91	4.62	7.59

Similarly to the property and construction sector, the trend of environmental disclosures in the annual reports of Thai listed companies in the agriculture and food sector was an increase from 2006 to 2011, with environmental policy, pollution management, environmental activity, environmental management systems, and waste management as the most common topics. Companies in the agriculture and food sector achieved high scores for the environmental disclosures in annual reports because the companies understand the concept of making environmental disclosures as a tool in advertising and a strategy for public relations. These strategies are important components of corporations' plans to sustain and survive in their business (Admad & Sulaiman, 2004) and environmental disclosures and spending and activity directed towards protecting the environment are clearly corporate strategies aimed at creating corporate competitive advantage and enhancing corporate reputation.

On the other hand, there were no disclosures on the topic of environmental cost accounting systems in either industry sector in either 2006 or 2011 (See Table 2). This is because although International Accounting Standards (IAS) No.1: Presentation of Financial Statements under IFRSs suggests that corporations, especially those in highly environmentally sensitive industries should report extra information beyond purely financial statements, e.g. environmental reporting and sustainable development reporting, companies must incur costs to maintain an environmental cost accounting system. Moreover, providing information about environmental cost accounting systems in annual reports is still voluntary, and companies would not wish to reveal information to their stakeholders which might adversely influence decisions about, for instance, investment, and consumption.

Paired sample t-tests are used to test whether there are significant differences between the scores for corporate environmental disclosures in the property and construction sector in 2006 and 2011 as well as between the scores in the agriculture and food sector in 2006 and 2011, (See Table 3). The results show that there were significant differences between the scores for the two years in both the property and construction sector, and the agriculture and food sector with the results indicating that the scores for disclosures in both industries increased between the two years. This is because there has been an increase and improvement in the regulations relating to environmental disclosures, issued by Thai government organizations such as the SET, the Ministry of Natural Resources and Environment, and the Ministry of Energy (See SET, 2013) during the period studied. The results can be explained by legitimacy theory used in this study. It is because social expectations tend to increase their demands to corporations that have to serve them by providing the actions and activities to society and environment including disclosures under the regulation (Cormier & Gordon, 2001).

Table 3: Paired Sample T-test

Industries	N	Mean	Std. Deviation
Property and construction sector			
Year 2006	56	3.04	3.954
Year 2011	56	4.91	5.558
P = 0.002**			
Agriculture and food sector			
Year 2006	34	4.62	4.112
Year 2011	34	7.59	7.063
P = 0.036*			

* Significant at 0.05, ** Significant at 0.01

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Table 4 shows the results of independent sample t-tests comparing the provision of environmental disclosures in corporate annual reports between the two sectors in both 2006 and 2011. No significant differences were found between the two sectors in either 2006 or 2011. The findings are consistent with the study of Suttipun (2012) who did not find the differences between companies in both high and low profile industries in Thailand. This may be because companies in both industries prefer to provide the minimum level of environmental disclosures according to the reporting regulations in Thailand (SET, 2013). This result suggests, therefore, that different industry sectors in Thailand did not provide different quantities or quality of environmental disclosure in their annual reports.

Table 4: Independent T-test

Industries	N	Mean	Std. Deviation
Year 2006			
Property and construction sector	56	3.04	3.954
Agriculture and food sector	34	4.62	4.112
P = 0.077			
Year 2011			
Property and construction sector	56	4.91	5.885
Agriculture and food sector	34	7.59	7.063
P = 0.069			

* Significant at 0.05, ** Significant at 0.01

In Table 5, Pearson's correlation is used to test for a relationship between the environmental disclosures and corporate financial performance. As the result, there was no relationship between the environmental disclosures, and corporate financial performance. Even though there was a relationship between ROA, ROE, and EPS in terms of financial performance, no correlation was between the disclosures and even one variable of corporate financial performance. The results are consistent with prior studies (See Rahman et al., 2010; and Aras et al., 2009) finding no relationship between environmental disclosures and financial performance in other developing countries such as Turkey and Malaysia. This is because Thai listed companies provide just minimum level of environmental information disclosures in annual reports for mandatory reporting (SET, 2013), but not for corporate strategy to competitive advantage and reputation to get the greater financial performance. On the other hand, the proxies of corporate financial performance used in this study are focused on only accounting based, but there are some proxies of the other perspectives such as economic based (i.e. Tobin's Q), and market based (i.e. firm value, and share return). Therefore, the results of relationship between environmental disclosures and financial performance by Thai listed companies may be different, if there is change of proxies to economic and market bases. The number of sample used in the study can be mentioned as another factor that cannot find the relationship between the disclosures and corporate performance.

Table 5: Pearson's Correlation Matrix

	Disclosures	ROA	ROE	EPS
Environmental disclosures	1.00	.168	.157	.067
ROA		1.00	.865**	.633**
ROE			1.00	.621**
EPS				1.00

* Significant at 0.05, ** Significant at 0.01

CONCLUSIONS AND IMPLICATIONS

The study's objectives are to investigate the extent of environmental disclosures in the 2006 and 2011 annual reports of companies listed on the SET in the property and construction, and agriculture and food sectors, and to examine for a possible relationship between the environmental disclosures, and corporate financial performance. The study found that the most common disclosures in the in annual reports of Thai listed companies were the mandatory reporting issues such as environmental policy, environmental management systems, and pollution management systems, with the most common voluntary disclosures being on the topic of environmental activity. There was a trend of increasing environmental disclosures in annual reports between 2006 and 2011 in both the property and construction sector and the agriculture and food sector. However, there were no significant differences in the scores for environmental disclosures between the property and construction sector and the agriculture and food sector in either year. Finally, there was no possible relationship between the environmental disclosures, and corporate financial performance. In theoretical contribution, the results prove that legitimacy theory can explain the extent of environmental disclosures in annual reports by Thai listed companies and the increasing of environmental disclosures in annual reports of during 2006 to 2011 in Thailand as well as developed countries. This is because companies in Thailand are clearly tailoring their actions and activities including environmental disclosures to meet social expectations. In addition, social expectations tend to increase their demands to corporations that have to serve them by providing the actions and activities to society and environment including disclosures under regulation (Cormier & Gordon, 2001).

This study also provides some practical contributions to knowledge in the field of environmental disclosure in developing countries. The study's results are an important source of information for policy makers such as the SET, the Ministry of Natural Resources and Environment, and the Ministry of Industry as they seek to improve the environmental reporting regulations for Thai listed companies. Moreover, the results encourage corporate stakeholders understanding the progress made in achieving sustainable development in Thailand by the environmental disclosures in annual reports. Although environmental disclosures by Thai listed companies in the SET are not used as tools to improve and increase corporate reputation, and competitive advantage, the trend in Thailand is already away from voluntary reporting. This study is also suggested to give additional insight for investor in their decision to invest in the company especially the information regarding the influence of corporate age to the environmental disclosures in annual reports.

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There are some limitations inherent in this study which focuses on only two industry sectors among the companies listed on the SET, whereas there are actually eight industry sectors in total. In addition, data relating to environmental disclosures is collected only from corporate annual reports. However, there are other media that corporations use to communicate with their stakeholders such as websites, stand-alone reports, and corporate letters. Finally the scoring of the environmental disclosures made by companies in their annual reports relies upon the subjective decisions of the researchers which should be mentioned as a limitation on the objectivity of the data on which the study's findings are based. Therefore, for future research, corporate environmental disclosures in all industries should be studied. Moreover, the relationship between environmental disclosures and corporate non-financial performance should be examined in a future study.

REFERENCES

English

- Ahmad, N. N. N. & Sulaiman, M. (2004). Environmental disclosures in Malaysian annual reports: a legitimacy theory perspective. *International Journal of Commerce Management*, 14, 44-58.
- Aras, G., Aybars, A. & Kutlu, O. (2009). The interaction between corporate social responsibility and value added intellectual capital: empirical from Turkey. *Journal of Management Research*, 7(4), 622-637.
- Bhagat, S. & Bolton, B. (2008). Corporate governance and firm performance. *Journal of corporate finance*, 14(3), 257-273.
- Brown, N. & Deegan, C. (1998). The public disclosure of environmental performance information- a dual test of media agenda setting theory and legitimacy theory. *Accounting and Business Research*, 29, 21-41.
- Camfferman, K. & Cooke, T.E. (2002). An analysis of disclosure in the annual reports of U.K. and Dutch companies. *Journal of International Accounting Research*, 1, 3-30.
- Choi, J.S. (1999). An investigation of the initial voluntary environmental disclosures made in Korean semi-annual financial reports. *Pacific Accounting Review*, 11(1), 73-102.
- Connelly, J. T. & Limpaphayom, P. (2004). Environmental reporting and firm performance: evidence from Thailand. *The Journal of Corporate Citizenship*, 13, 137-149.
- Cormier, D. & Gordon, B. (2001). An examination of social and environmental reporting strategies. *Accounting, Auditing & Accountability Journal*, 14, 587-616.
- Cowen, S.S., Ferreri, L.B. & Parker, L.D. (1987). The impact of corporate characteristics on social responsibility disclosure: a typology and frequency-base analysis. *Accounting, Organizations and Society*, 12, 111-122.
- Deegan, C. & Gordon, B. (1996). A study of the environmental disclosure practices of Australian corporations. *Accounting and Business Research*, 26, 187-199.
- Deegan, C. & Rankin, M. (1996). Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority. *Accounting, Auditing & Accountability Journal*, 9, 52-69.
- Deegan, C. (2002). Introduction: the legitimising effect of social and environmental disclosures- a theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15, 282-311.
- Deegan, C., Rankin, M. & Voght, P. (2000). Firms' disclosure reactions to major social incidents: Australian evidence. *Accounting Forum*, 24, 101-130.

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- Dragomir, V.D. (2010). Environmentally sensitive disclosures and financial performance in a European setting. *Journal of Accounting & Organizational Change*, 6(3), 359-388.
- Guthrie, J. & Parker, L. (1990). Corporate social disclosure practice: a comparative international analysis. *Advances in Public Interest Accounting*, 3, 159-176.
- Hackston, D. & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal*, 9, 77-108.
- Ho, L. J. & Taylor, M. E. (2007). An empirical analysis of triple bottom-line reporting and its determinates: evidence from the United States and Japan. *Journal of International Financial Management and Accounting*, 18, 123-150.
- Hogner, R. H. (1982). Corporate social reporting: eight decades of development at US steel. *Research in Corporate Social Performance and Policy*, 4, 243-250.
- Huang, C. L. & Kung, F. H. (2010). Drivers of environmental disclosure and stakeholder expectation: evidence from Taiwan. *Journal of Business Ethics*, 96, 435-451.
- Jone, K. & Alabaster, T. (1999). Critical analysis of corporate environmental reporting. *Journal of Environmental Assessment Policy and Management*, 1, 27-61.
- Konar, S. & Cohen, M. (2001). Does the market value environmental performance? *Review of Economics of Statistics*, 83(2), 281-289.
- Kuasirikun, N. & Sherer, M. (2004). Corporate social accounting disclosure in Thailand. *Accounting, Auditing & Accountability Journal*, 17, 619-641.
- Margolis, J.D. & Walsh, J.P. (2001). *People and profits*. New York: Lawrence Erlbaum Associates, Mahwah.
- Monteiro, & Guzmán. (2010). The influence of the Portuguese environmental accounting standard on the environmental disclosures in the annual reports of large companies operating in Portugal: A first view (2002-2004). *Management of Environmental Quality: An International Journal*, 21, 414 – 435.
- Nakao, T., Amano, A., Matsumura, K., Genba, K. & Nakano, M. (2007). Relationship between environmental performance and financial performance: an empirical analysis of Japanese corporations. *Business Strategy and the environment*, 16, 106-118.
- Newsome, M. & Deegan, C. (2002). Global expectations and their association with corporate social disclosure practices in Australia, Singapore, and South Korea. *The International Journal of Accounting*, 37, 183-213.

- O'Donovan, G. (2002). Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 15, 344-372.
- Patten, D. (1992). Intra-industry environmental disclosures in response to the Alaskan oil spill: a note on legitimacy theory. *Accounting, Organizations and Society*, 17, 471-475.
- Rahman, S. A. B. A., Yusoff, R. B. & Mohamed, W. N. B. W. (2010). Environmental disclosures and financial performance: an empirical study of Malaysia, Thailand, and Singapore. *Social and Environmental Accountability Journal*, 29(2), 46-58.
- Ratanajongkol, S., Davey, H. & Low, M. (2006). Corporate social reporting in Thailand: the news is all good and increasing. *Qualitative Research in Accounting & Management*, 3, 67-83.
- Suttipun S. (2012). Triple Bottom Line reporting in annual reports: a case study of companies listed on the Stock Exchange of Thailand (SET). *Asian Journal of Finance & Accounting*, 4, 69-92.
- Suttipun, S. & Stanton, P. (2012A). Making or not making environmental disclosures in Thailand. *International Journal of Business and Social Science*, 3(9), 73-81.
- Suttipun, S. & Stanton, P. (2012B). The differences in corporate environmental disclosures on websites and in annual reports: a case study of companies listed in Thailand. *International Journal of Business Management*, 7, 18-31.
- Stray, S., & Ballantine, J. (2000). A sectoral comparison of corporate environmental reporting and disclosure. *Eco - Management and Auditing*, 7, 165-177.
- Tilt, C. A. (1994). The influence of external pressure groups on corporate social disclosure. *Accounting, Auditing & Accountability Journal*, 7, 56-71.
- The Stock Exchange of Thailand (SET). (2013). Good Corporate Governance. <http://www.set.or.th/th/index.html>.
- UNEP/SustainAbility (1996). *Engaging stakeholders: the benchmark survey*. London: UNEP/SustainAbility.
- Williams, S. M. (1999). Voluntary environmental and social accounting disclosure practice in the Asia-Pacific region: an international empirical test of political economy theory. *The International Journal of Accounting*, 34, 209-238.
- Wilmshurst, T. D. & Frost, G. R. (2000). Corporate environmental reporting: a test of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 13, 10-25.
- Wiseman, J. (1982). An evaluation of environmental disclosures made in corporate annual reports. *Accounting, Organizations and Society*, 4, 123-133.