

CHAPTER 3

LITERATURE REVIEW

The literature review is separated into two parts: the practices of environmental disclosures for the purpose of survey study and the theoretical framework and model explaining the association between environmental disclosure and the variables of environmental performance, financial performance, and stakeholder's influence for the purpose of empirical study.

3.1 Proposed Environmental Report

In order to survey the opinions on the environmental disclosure items and the proposed format, a review of the laws and accounting standards relating to environmental issues was conducted. Subsequently, the current practices and suggestions for environmental reporting from the recent surveys were summarized. In addition, the review was expanded to include the current study of the willingness of firms in disclosing positive rather than negative information.

3.1.1 Current Practices

A number of surveys and studies were conducted in North America, the European Community, and other parts of the world. This section was contributed to the summaries of some of the prior studies in the area of disclosure practices.

- North America

In the US, environmental disclosure indicates cross-sectional and longitudinal differences. Gamble et al. analyzed annual reports and SEC-10K reports in 1995. The result showed that petroleum refining, hazardous waste management, steel works, and blast furnaces provided the highest quality of disclosures. However, less than 20 percent on average of the possible disclosures were presented by the samples in their study. They then concluded that the overall quality of disclosures was low. (Gamble et al., 1995)

- The European Community

“Despite the lack of professional accounting initiatives and legislative encouragement, European companies have a long tradition of social reporting.” (ICAEW, 1992)

In Finland, the corporate annual report usually included more information than would be demanded by legal requirements. This kind of information was a voluntary activity and purely a matter of corporate policy. Environmental reporting was a typical example of the additional information firms were willing to provide to their shareholders. (Niskala et al., 1995)

There was clear evidence that there was generally far higher disclosure levels for environmental information in Germany than in any other country. ‘From a sample of 40 German firms, no less than 30 percent provided at least one item of environmental information, with 35 percent producing a separate statement including financial data relating to capital, operating and research and development costs alongside detailed descriptions of the activities undertaken, together with output measures relating to achievements in minimizing waste production and emission of pollutants.’ (Roberts, 1991)

In a survey of UK reporting by KPMG in 1994, the number of companies reporting on the environment had not changed significantly over the past year. The manner in which information on environmental performance was disclosed in the accounts still varied considerably and there was little consensus as to the most appropriate mechanism. There were particular industry sectors where environmental reporting had become established practice. This was especially noticeable in the chemicals, food and drink, transport and utilities sectors.

Only a few companies are demonstrating reporting good practice as set out in published guidance. In particular:

- Setting of quantifiable targets and objectives;
- Detailing data on performance;
- Reporting good and bad performance;
- Describing environmental audit programs;
- Disclosing environmental costs and liabilities;
- External verification of reports. (KPMG, 1994)

- New Zealand

According to the accountants that responded to a survey by Coombes and Davey (1994), an organization was more likely to disclose narrative rather than financial or statistical environmental information in its financial statements. No clear differences were apparent between organization type, however New Zealand subsidiaries of overseas companies and producer boards and cooperatives had significantly greater incidence of published environmental policies than New Zealand public companies and government departments. New Zealand accountants could contribute to the environmental responsibility of their organization, but were often unsure of how to at this stage.

- Japan

Yamagami and Kokubu (1981) had surveyed the characteristics of corporate social disclosure in Japan and found that:

(1) There was no social disclosure in the mandatory corporate annual report, the Business Report or the Periodic Securities Report, with the exception of trivial information about employees;

(2) Japanese companies disclosed some social information descriptively in the voluntary reports, the Operation Report, the English Version of the Annual Report and the Public Relations Report. Social disclosure was most extensive in the Public Relations Reports;

(3) Although Japanese companies disclosed extensively on the topics relating to research and development and international activity, they provided a comparatively less amount of information on the topics relating to environment, community involvement and employee relations.

- Thailand

In Thailand in the latter part of 1995, a survey of current disclosures was conducted by the author using telephone and annual report survey of 100 companies from the 1992 Million Baht business listing which included both listed and non-listed companies. That study found that disclosure levels were very low. The listed companies disclosed more environmental information than the non-listed companies. Among firms that disclose environmental information, the activities in environmental prospects merited the highest disclosure. Then, accordingly capital investments, litigation, and environmental policy were disclosed to a certain extent. Most disclosures were stated in the message from the directors in their annual reports; only a few were stated in the notes to financial statements.

Another survey of environmental disclosures by the listed companies was conducted by the author as a part of this study. The annual reports of the listed companies in 19 industries identified in Chapter 4, section 4.1.1. were obtained and reviewed for their environmental disclosures. 59 out of 296 companies (approximately 20 percent) had disclosed certain environmental information. Most of their disclosures were involved their production processes. A large amount of disclosures were in the area of donation to society. A fair amount of disclosures discussed about environmental rewards obtained by the firms. Other disclosures were related to law conformity, marketing projects, and environmental policies. Table 3-1 below presents the number of the firms in each of 19 industries and the number of the firms that disclosed the environmental information in their annual reports.

Table 3-1: Companies Disclosed Environmental Information

Industry Sector	Number of firms	Disclosed Firms	Percent (%)
1. Property Development	44	6	13.64
2. Pharmaceutical Products and Cosmetics	2	0	0
3. Printing and Publishing	9	0	0
4. Pulp and Paper	5	3	60
5. Textiles, Clothing and Footwear	29	3	10.34
6. Vehicles and Parts	10	1	10
7. Chemicals and Plastics	14	7	50
8. Food and Beverage	29	5	17.24
9. Health Care Services	11	1	9
10. Agribusiness	29	2	6.9
11. Building and Furnishing Materials	35	7	20
12. Hotels and Travel Services	13	2	15.38
13. Electrical Products and Computer	13	3	23.08
14. Electronic Components	8	2	25
15. Energy	9	6	66.67
16. Household Goods	11	3	27.27
17. Jewelry and Ornaments	5	1	20
18. Mining	3	3	100
19. Packaging	17	4	23.53
Total	296	59	19.93

3.1.2. Suggested Practices

There are suggestions from authorities and researchers toward the disclosure items, format, and its implementation. The following section includes some of those suggestions.

- North America

In order to expand the scope of environmental accounting, changes in non-financial data, historical cost information, and accounting principles may be needed. Agacer et al. (1995) suggested that first, firms must disclose non-financial or non-quantitative information to appropriately report environmental activities. Second, the historical cost concept may have to be abandoned because it overlooks the potential costs. Third, the concept of materiality may have to be reconsidered. Some activities may have small historical cost, but huge future costs.

External environmental reporting should demonstrate the characteristics of relevance, reliability, understandability, and comparability. Flexibility in reporting was encouraged so management can make the most meaningful presentation of their organization's circumstances. The environmental reporting framework should include an organization's profile; policy, objectives and targets; environmental management system; and environmental performance analysis. A glossary and third-party opinion were recommended to be included as optional. (CICA, 1994)

- The European Community

The possibilities of disclosure should start with a statement of environmental policy. The statements should be definitive enough to lead to measurable improvements in the environment, rather than remaining at the level of vague general statements of good intent. Delta Plc and ICI provided the examples of definitive statements. The next step was to provide relevant information to enable the reader of the annual report to assess the progress the company had made in achieving its policy objectives. Non-quantitative information of specific narrative, compliance with standards, and environmental audit can be prepared. Major categories of specific narrative provision were : 1) organizational arrangements set in place for developing environmental awareness; 2) details of specific projects undertaken; 3) particular environmental hazards arising from the company's activities; 4) recognition of good

performance from outside agencies. Standards would include legal standards, proposed or prospective legal standards, industry standards, and corporate standards. Bayer, Body Shop, Shanks & McEwan Group Plc, and Ciba-Geigy were among those firms disclosed in this type. Then, quantitative information was desirable to enhance in conveying the message of firms' performance to the users. Activities in the area of emission levels and effluent discharges, energy consumption, noise levels, and waste production and recycling would be useful for these purposes. British Airways and Norsk Hydro were examples of firms disclosing quantitative information. Finally, financial information was still demanded by the users of financial statements, especially investors. Environmental expenditure, provision for future expenditures and contingent liabilities, impact on future profitability, and integrated environmental accounts were part of the financial information. A more recent effort to implement the cost/benefit model, as demonstrated by the Dutch company BSO/Origin, adequately highlighted the major difficulties encountered in such an approach. (ICAEW, 1992)

Two approaches have been developed in the UK. One approach included environmental issues within the existing framework, the other approach created an entirely new accounting framework. The first approach aimed at putting environmental issues in the notes to financial statements. A criticism of this concept is that the average reader did not read the important information contained in the financial statement notes. "The second approach would require the development of meaningful ways of integrating scientific and technical environmental information with financial information about expenditures, liabilities, asset values, future profitability and the like". (Vinten, 1993)

The 100 Group of Finance Directors in the UK (1992) suggested that the essence of the statement should be:

- reports should comment on environmental impacts, risks and targets and identify major countries of operation;
- there should be a statement of environmental policy covering guiding principles and priorities, key environmental issues for each business operation, and realistic and measurable targets for improvement where possible;

- examples of environmental performance and all claims should be able to be substantiated;
- details of organizational responsibilities should be given;
- once policy and targets have been disclosed then the company should report on progress.

- Other Countries

The New Zealand accountants did not want environmental disclosure made mandatory, but favored the encouragement of voluntary disclosure. Increased disclosure would make environmental responsibility more visible, possibly providing one vehicle for discussion and debate. (Davey et al., 1995)

The United Nations Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting [ISAR] suggested the following information should be disclosed by the enterprises under the current accounting model.

- 1) Formal policies and programs, or the fact that none exist should be primarily concerned.
- 2) Improvements in key areas over the past five years, or since introduction of policies, could be discussed, as well as environmental emissions targets.
- 3) Measures undertaken due to government legislation, success in meeting government requirements, and any material proceeding under environmental laws should be disclosed.
- 4) Finally, the financial or operational effect of environmental measures on capital expenditures and earnings in current and future periods could be discussed. When material, amounts capitalized and charged to operations could be discussed.

In the notes to financial statements, accounting policies related to environmental matters should be required. (UN, 1992) ISAR also suggested that in order to separate disclosure of environmental expenditures, measures could be defined to include those undertaken to:

- 1) minimize, eliminate, prevent or clean up the harmful effects of pollution and noxious emissions;
- 2) develop and utilize cleaner technologies;
- 3) develop technologies to substitute for non-renewable resources;
- 4) maintain, renew, replace or conserve renewable resources;
- 5) reduce or eliminate the possibility of catastrophes;
- 6) clean up or minimize the harmful effects of catastrophes should they

occur, or provide funds and resources to accommodate such eventualities; 7) educate as to potential sources of harm and employ conservation; 8) develop environmental policy and programs; and 9) undertake environmental audits and risk assessments. (UN, 1992)

Table 3-2 in the following pages summarizes the above literature reviews.

3.1.3 The Proposed Disclosure Items and Format

In conjunction with the above practices and suggestions, this study has identified the disclosure items that should be included in the annual report or environmental report. The items include environmental objectives and policies, plans, projects, environmental assets and expenses, liabilities including contingent liabilities, actions in complying with laws and regulations, and environmental benefits. In addition, the environmental report should be presented as a separate report apart from the annual report. The notion in establishing an environmental report stems from the items related to the environment that have already been presented in the annual report but have not been shown separately. The report should avoid the complexity in measuring and preparing, therefore, the one prepared by BSO/Origin does not apply. In this study, the environmental audit report, balance sheet, profit and loss statement, and notes to statements are presented for discussion by the respondents. The proposed report is shown as part of the questionnaire (see Appendix C).

สถาบันวิทยบริการ
จุฬาลงกรณ์มหาวิทยาลัย

Table 3-2: Summary of Literature Reviews Related to Disclosure Items and Pattern

Studies Prior to 1997	Disclosure Items						Audit	Pattern		Other
	Policies	Plans	Projects	Contingent Liabilities	Expenses/Asse ts	Law Conformation		Included in F/S	Environmental report	
Standard & Law US FASB # 5 Interpretation#14				-Accrued if conditions are met -Reasonable estimation of loss						
EITF # 89					Capitalize of cost to treat asbestos removal Capitalize of cost to treat environmental contaminate					
# 90-8										
# 93-5				Liability are separate from recovery						
SEC-S-K					Effect of compliance to capital expenditure, earning, competitive position					
SAB # 92	Required to be disclosed			# of claims/ Period to pay/ Breakdown accrual						
EC -Norway Enterprise ACT (89) - Netherlands CWEC (89) -Finland (92) -UK (93)	Objective of cleaning up					Emission Level/ conta- mination				-Internal requirement for report -EC directives
			Required to be disclosed	Recognize liability	-Treatment of costs -Impairment of assets					

Studied Period to 1996	Disclosure Items						Audit	Pattern		Other
	Policies	Plans	Project	Contingent Liabilities	Expenses Assets	Law Conformation		Included in F/S	Environmental report	
Other WICE (93) CBI (94) UNEP (92) EMAS BS 7750 ISO 14001	Required Disclosure of management policy Policy Policy policy	Required Manage ment system System plan	Disclosure of management and product Required disclosure of sustainable development Environmenta l performance activities project	 Lawsuit	 Disclosure of input/output	 Emission	 3-year verification Review by management and auditor			-Qualitative and quantitative disclosure -Financial implication -Relationship with stockholder
<u>Current Practice North America</u> Gamble et al.(95) EC -Niskala et al.(95) -Robert (91) -KPMG (94) -Davey et al (95) -Yamagani+ Kokubu (81) -Suphamit (96) (Thailand)	 Disclose		 -Activities Output measurement -good or bad performance International Activities	 disclose	 -Capital -Operating - R&D disclose R&D Capital investment	 Litigation	 -audit program -external report	 35% of samples reported disclosure Public relation report	-Particular industries had higher quality -Cross sectional and longitudinal difference -20 % of all possible disclosures are disclosed. -Disclosure are provided more than law requirement in Finland -Germany was the first in providing high degree of information -Difference in industries in UK -Quantifiable setting -Narrative in New Zealand -Less amount of environmental disclosure in Japan -Less amount of environmental disclosure in Thailand	

(Continue)

Studied Period to 1996	Disclosure Items						Audit	Pattern		Other
	Policies	Plans	Project	Contingent Liabilities	Expenses Assets	Law Conformation		Included in F/S	Environmental report	
<u>Suggestion North America</u> - Agacer et al.(95)	-Disclose policy, objective, target -Definitive disclosure	System	Performance				Third- party opinion		Concepts 1) relevance 2) reliability 3) understand abilities 4) comparability	Change concept of 1) Financial information 2) Historical data 3) Materiality - Glossary definitive
<u>EC</u> - ICAEW (92)		Arrangement to develop.	Access the progress.	hazards arising		Narrative compliance with standards	Prepare			-Benefit includes good performance -Quantitative Quantitative
Vinten (93)		-Emission level -Performance related to environment		provision for future contingency	Existing provision for future			Put in notes to F/S	Develop	Financial - Impact future product - Cost/benefit model
100 Group of Fin. Directors in UK. ISAR (92)	Disclose policy & target. Formal policy	Target	- Example of performance - Progress. Improvement in environmental performance		Financial disclosure	- All claims -Organization responsibility Measure of success in meeting requirement		Accounting policies disclosure.		

สถาบันวิทยบริการ
จุฬาลงกรณ์มหาวิทยาลัย

3.1.4 Positive and Negative Disclosures

Many studies had concluded that firms were more willing to disclose positive information than to disclose negative information. The study by Goodwin et al. (1996) supported the hypotheses which argued that companies would be more willing to disclose positive environmental information than negative information because it had positive impact on firm value. Mirza (1987) had also argued that social responsibility information was relevant and of value to both internal and external users. Management had information useful to investors and, once disclosed, this was expected to have a positive impact on the value of the organization. However, where disclosure was expected to have a negative impact on the value of the firm, it had been found that such disclosure was less likely to occur. The earlier studies by Gray et al. (1990) and Bebbington et al. (1994) hypothesized that where information was assessed to have positive value for the company if released to non-institutional investors, the level of willingness by companies to disclose the information would not be significantly different to the level of disclosure desired by such investors. In contrast, where the information was judged to have potential negative value for the company, it was predicted that the gap between willingness to release the information and the level of disclosure required would be significant.

It was argued that whether environmental information is classified as negative or positive will depend on the existence of a corporate environmental policy. Such a policy sets a structure for corporate activities associated with the wider environment and indicates to society that the company is serious about its responsibilities towards the environment.

Another study in a more recent Australian review, Deegan and Gordon (1996) undertook a survey of the environmental reporting practices within the 1991 annual accounts of a random sample of 197 companies from 50 industries. They documented the following findings:

- Seventy-one firms (36 percent of the sample) were identified as producing environmental disclosures voluntarily;
- Using word counts, the mean amount of positive environmental disclosures (180.7 words) significantly outweighed the mean amount of negative disclosures (5.7 words);
- Only 14 companies out of the entire sample provided any negative environmental disclosures.

Based from the above studies, the policies, plans, projects and benefits are expected to provide positive value to firms and considered as positive information while liabilities including contingent liabilities are considered as negative information. The first hypothesis of this study is identified as follow:

H₁ Information providers tend to disclose positive environmental information more than negative environmental information.

3.2 Determinants of Environmental Disclosures

The association of environmental disclosure and the firm's characteristics had been empirically tested in many studies. In stakeholder's theory, the original individual who can affect the achievement of the firm's objectives, normally the shareholder, is expanded to include external influences such as regulatory or environmentalist. The review of the studies relating to the association between environmental disclosure and firm's characteristics in this study which includes environmental performance, economic performance, stakeholder's influences, and others variables such as size, risk and industrial type is presented in the following section.

3.2.1 Theoretical Framework

The theory of social accounting has recently been the subject of much debate among researchers (Chua, 1986; Gray et al., 1988; Hopper and Powell, 1985; Mathews, 1984 and 1987; Parker, 1986 and 1991; and Puxty, 1986 and 1991). A

number had theorized why corporations should and/or do disclose social information, and in so doing, had identified the many technical problems associated with such reporting. This paper does not enter the debate on the most appropriate method of accounting for social and environmental information, but attempts to support empirically one of the claims made by proponents of most theories-that pressure groups are a major influence on disclosure, and stakeholder theory.

Freeman (1984) defined a stakeholder as "any group or individual who could affect or was affected by the achievement of the firm's objectives." Stakeholders of the firm may include stockholders, creditors, employees, customers, suppliers, public interest groups, and governmental bodies. He also categorized this stakeholder concept into a corporate planning and business policy model and a corporate social responsibility model of stakeholder management. The corporate planning and business policy model focused on developing and evaluating the approval of corporate strategic decisions by groups whose support was required for the firm to continue to exist. The behavior of various stakeholder groups is considered a constraint on the strategy setting by the management. In this model, stakeholders were identified as groups that were not adversarial in nature, such as customers, owners, suppliers, and public groups. The corporate social responsibility model extended the prior model to include external influences that may assume adversarial positions such as regulatory bodies or environmentalist. As the level of stakeholder power increased, the importance of meeting stakeholder demands increased, also.

Ullmann (1985) presented a three-dimensional model to explain the relationship between social disclosure and social and economic performance. Stakeholder power was discussed as the first dimension of this model, explaining that a firm would be responsive to the intensity of stakeholder demands. Companies developed their reputation through social responsibility and disclosure because they wanted to balance stakeholder influence. The second dimension of the model is strategic posture. It described the mode of response of an organization's key decision makers toward social demands. A company whose management tried to influence their organization's status with key stakeholders through social responsibility activities possessed an active

posture. The more active the strategic posture, the greater the expected social responsibility activities and disclosures. And the third dimension concerned the companies' past and current economic performance. Economic performance directly affected the financial capability to create social responsibility programs. Therefore the better the economic performance of a company, the greater its social responsibility activity and disclosure.

3.2.2 Characteristics Associated with Environmental Disclosures

- Environmental Disclosure and Corporate Environmental Performance

Voluntary environmental disclosures had been widely criticized as being self-serving, inaccurate accounts of corporate environmental performance (Dierkes and Preston, 1977, and Churchill, 1978). However, there had been little empirical evidence other than anecdotal, to support these accusations. Instead, previous research had focused on the usefulness of social and environmental disclosures to investors (Buzby and Falk, 1979; Longstreth and Rosenbloom, 1973; and Williams, 1980), or on the relationship between social disclosures and the firms' financial or market performance (Ingram, 1978; Balkaoui, 1980; and Spicer 1978). Results of these studies had been mixed, but most agreed that social and in particular environmental information was desired and useful information for investment decisions (see also Dierkes and Antal, 1985).

Research investigating the relationship between social performance and social disclosures had mixed results. Bowman and Haire (1976) concluded that the length of a firm's social disclosures was representative of the firm's social performance; Ingram and Frazier (1980) found only a weak association between a firm's social performance using Council on Economic Priorities [CEP] pollution performance index and pollution disclosure in annual reports. Wiseman (1992) found that the voluntary environmental disclosures, both quantity and quality of pollution disclosure in annual reports, were incomplete, providing inadequate disclosure for most of the environmental performance items included in the CEP pollution performance index. Further it was

demonstrated that no relationship existed between the measured contents of the firms' environmental disclosures and their environmental performance.

- Corporate Environmental Performance

Much of the existing literature on corporate social performance was published in the 1970s, when public attention focused more intently on corporate social policies and their impact. Popular pressure to perform social, in addition to financial, audits stimulated efforts to develop more practical and accurate measurement standards (See, for example, AICPA 1977; Blake et al., 1976; Churchill, 1974; Dierkes and Bauer 1973; Epstein et al., 1977; and Seidler and Seidler 1975). The results of these studies clearly suggested that no single measure can satisfactorily estimate a firm's overall social impact. Ullman (1985) suggested that "social performance referred to the extent which an organization met the needs, expectations, and demands of certain external constituencies beyond those directly linked to the company's products." Wood (1991) suggested that researchers would examine "the degree to which the firm made use of socially responsive processes, the existence and nature of policies and programs designed to manage the firm's actions, programs, and policies." Soderstrom et al. (1995) identified four theoretically-based dimensions of environmental performance which corresponded to regulatory compliance, environmental impacts, internal management systems, and stakeholder relations. They suggested that a single measure cannot fully capture all dimensions of a firm's strategy toward the environment.

The CEP pollution performance index or other index related to environmental performance is not available for Thai companies. This study uses the firm's policies, plans, and projects in marketing and production to measure the firm's environmental performance. Due to the unclear conclusion about the association of environmental disclosure and environmental performance, this study has emerged the second hypothesis as follows:

H₂ Firms with higher environmental performance tend to disclose more environmental information than those with lesser performance.

- Environmental Disclosure and Economic Performance

Studies conducted in this area confirm that there is an association between corporate social responsibility disclosure and economic performance. Belkaoui (1978) investigated the information content of pollution control disclosures by developing portfolios of disclosing and nondisclosing firms. His results supported an ethical investor hypothesis that rewarded companies for acting in a socially responsible manner. Herremans et al. (1993) concluded from their study that large US manufacturing companies with better reputations for social responsibility outperformed companies with poorer reputations, and provided investors better stock market returns and lower risk.

The third hypothesis is established to confirm the conclusions of the above studies in emerging markets.

H₃ Firms with better financial performance tend to disclose more environmental information than those firms with poorer performance.

- Environmental Disclosure and Stakeholder's Power

Roberts (1992) empirically tested the ability of stakeholder theory to explain corporate social responsibility disclosure. Results supported that measures of stakeholder power measured by stockholders, government and creditors, strategic posture, and economic performance are significantly related to levels of corporate social disclosure. Johnson (1995) examined the decision to disclose and the market valuation of environmental capital expenditures. She found that a firm's decision to disclose, but not the amount it disclosed, was associated with its financial performance, its political costs and the sensitivity of its stakeholder (customer) base to the creation of pollution externalities.

Stockholder power

It was hypothesized that the wider the dispersion of corporate ownership, the better the corporation's social responsibility disclosures. (Keim, 1978 and Ullmann, 1985) Roberts (1992) constructed a model to explain environmental disclosure using stakeholder power. In his model, stockholder power was surrogated by the percentage of outstanding common stock held by corporate management and by other individuals who own five percent or more of the stock. His result found that stockholder power possessed the expected sign but was not significant.

In this study, the potential pressure from shareholders measured by the average shares a shareholder holding more than 10 percent of total capital.

Governmental and regulatory influences

It follows that relatively larger amounts of corporate political action committee contributions resulted from management perceptions of higher regulatory and political pressure, and that social responsibility disclosures would more likely be of interest to regulatory agencies and political groups. (Watts and Zimmerman, 1978 and Freeman, 1984) Prior studies used companies' size to proxy for political exposure. Roberts (1992) used corporate political action committee contributions from 1981-1984 as an indicator of government stakeholder power. His result found this variable was significant at the 0.05 level.

This study proposes to measure the influence from the government authorities directly. The potential pressure from the government measured by the laws and regulations imposed on a particular firm.

Creditor influences

It follows that the greater the degree to which a corporation funds capital projects, the greater the degree to which corporate management would be expected to respond to creditor expectations concerning a corporate role in social responsibility activities. (Ullmann, 1985) Roberts (1992) used the variable Debt-to-Equity ratio to represent the creditor influences. His results found that this variable was significant at the 0.1 level.

This study replicates in measuring the potential pressure from creditors by the debt-to-equity ratio.

Other users that might have influence on the corporate activities and disclosure are:

Employees

Employees are a significant audience for information on environmental performance. It is important to keep them informed for several reasons. First, they are the front-line people implementing the organization's environmental strategy and, if they do not have the information needed to do their job, or they are opposed to the environmental programs, environmental performance suffers.

Investment community

The investment community, including insurers, brokers, and securities regulators, is concerned about how environmental performance affects the financial health of an organization. This audience uses environmental information to:

- assess environmental risks;
- evaluate whether there are programs to manage those risks; and
- determine the effects of environmental performance on financial results.

Communities

An organization's environmental attitude and performance go a long way toward public acceptance of existing facilities or locating new facilities in a community.

Suppliers, customers and consumers

Industrial and commercial customers are concerned about the environmental practices of their suppliers, as well as the product they are buying from them. Suppliers are concerned that their customers are using their products responsibly.

Other users

Perhaps the most influential of the other users are environmental groups. These groups use publicly available information, including voluntary environmental disclosures, to develop their own environmental campaigns. (CICA, 1994)

This study emphasizes the pressure of stakeholder from stockholders, government agencies, and creditors and therefore uses the influence from those three parties to represent the stakeholder's influence. The fourth hypothesis of this study is :

H₄ Firms that encounter more pressure from their stakeholders tend to disclose more environmental information than those with lesser pressure.

- Environmental Disclosure and Firm Characteristics

Cowen et al. (1987) examined the relationships between several corporate characteristics and specific categories of social responsibility disclosures. Company size, industry classification, profitability, and the presence of a corporate social responsibility committee were hypothesized as potential influences on corporate social disclosure. The results of a multiple regression analysis concluded, in general, that

company size and industry classification were associated with corporate social disclosures. Trotman and Bradley (1981) concluded in their paper that companies which provided social responsibility information were on average, larger in size, had a higher systematic risk and placed stronger emphasis on the long term decision than companies which did not disclose this information. Size, degree of social constraints faced by the company and stronger emphasis on the long term decision had a positive association to responsibility information disclosed by the company.

Alnajjar (1996) studied corporate social responsibility disclosures in annual reports of large firms and found that the current extent of environmental reporting differs by industry, but does not appear to be related to a company's size, profitability, or its environmental record.

In the prior researches and also this study, the size of a firm measured by total assets or total revenues and the systematic risk of a firm measured by β calculated from the market model of all firms listed in the Stock Exchange of Thailand.

Size and systematic risk of the firms are used as control variables in this study. The final two hypotheses are established to support this purpose.

H₅ Larger firms tend to disclose more environmental information than smaller firms.

H₆ Firms with higher systematic risk tend to disclose more environmental information than those with lower risk.

In a prior study by Priebjriyavat (1989), the study concluded that Thai listed company disclosures were determined by their size, their auditor, and their status as to whether or not it was a subsidiary to the foreign company. This study disregards the factors of auditor and subsidiary to the foreign company because the opinion from the company to represent the disclosure of the firms is obtained prior to the assessment of the auditor and parent company.

The measurement of each variable in this study is discussed more in detail in chapter 4 section 4.2.3 and chapter 5 section 5.4.2.1. Table 3-3 summarizes the above literature reviews.

Table 3-3: Studies of the association between disclosures and Firms' Characteristics

Studies	Disclosure	Environmental Performance	Economic Performance	Stakeholder Influence	Others
Bawman&Haire (76)	Social	Weak			
Ingram&Fragies (80)	Social	Weak			
Wiseman (92)	Environment (Pollution Control)		Support		-Stock return - Risk
Herremans et al. (93)	Social	Support			
Johnson (95)	Environment (Capital Expenditure)		Support	Support (Political cost) (Customer)	
Keim (78)	Social			Support (Stockholder)	
Ullmann (85)	Social			Support (Stockholder) (Creditor)	
Watt&Zimmerman (78)	General Information			Support (Political)	
Freeman (84)	Social			Support (political)	
Cowen et al. (87)	Social	Support (Social Committee)	Support		-Size -Industry
Tratman+Brodly (81)	Social				-Size -Risk -Long-term decision
Alnajjar (96)	Social				-Industry
Priebjriyawat (89)	General (Thailand)				-Size -Auditor status -Foreign subsidiary

3.3 Hypotheses

To summarize the hypotheses that are mentioned earlier, all the hypotheses will be presented in this paragraph. First, the willingness of the firms in disclosing positive and negative information is hypothesized and tested.

H₁ Information providers tend to disclose positive information more than negative information.

Then, the association between disclosure level and firms' environmental performance, financial performance, and stakeholder's influence are hypothesized and tested.

H₂ Firms with higher environmental performance tend to disclose more environmental information than those with lesser performance.

H₃ Firms with better financial performance tend to disclose more environmental information than those firms with poorer performance.

H₄ Firms that encounter more pressure from their stakeholders tend to disclose more environmental information than those with lesser pressure.

Finally, two control variables, size and systematic risk, are hypothesized and tested.

H₅ Larger firms tend to disclose more environmental information than smaller firms.

H₆ Firms with higher systematic risk tend to disclose more environmental information than those with lower risk.

The next chapter will discuss the sample and methodology used in this study.