

CHAPTER 1

INTRODUCTION

1.1 THE RESEARCH PROBLEM

Reporting on environmental issues within the annual report (AR) has been undertaken by many Australian companies, with considerable variation observed in the level of information disclosed [Deegan and Gordon (1996), Deegan and Rankin (1996), Guthrie and Parker (1990), Tilt and Symes (1999)]. Companies in the extractive industries have been identified as producers of high levels of environmental information in the AR [Christopher, Cullen and Soutar (1998), Deegan and Gordon (1996), Tilt (1997), Tilt and Symes (1999)] due to the sensitivity of their operations [Richards (1996)]. The purpose of this study is twofold. First, to document the information disclosed on environmental issues in the AR by companies in the Australian extractive industries for the period 1985-1994. Second, adopting a legitimacy theory framework, this study tests for associations between the varying levels of environmental reporting (ER) by companies in the Australian extractive industries and factors that influence reporting. The analysis is of both aggregate ER for each year by the sample entities which is representative of a system-wide (industry) response (represented by the variable ERAgg), and of the individual firm's level of ER (represented by the variable ERIdv).

This study analyses ER within the AR of 60 companies classified by the Australian Stock Exchange (ASX) as operating in the extractive industries over the period 1985 to 1994. The results from the analysis provide insight into the emphasis of the information content of ER within the AR. It is noted that disclosure has become dominated in the later periods by discussion on processes undertaken to manage environmental impact and a focus on external issues, with limited reporting of performance related data. Over the period analysed the number of observations

increased from 80 in 1985 to 336 in 1994. The results of the statistical analysis indicate that changes in the level of ERA_g were associated with changes in the level of societal responsiveness to environmental issues. It is also reported that in the initial periods analysed (1985-1986), ERID_v was associated with proxy variables for stakeholder influence. However in the later periods ERID_v was associated with proxies of the firm's level of public exposure.

1.2 THEORETICAL FRAMEWORK

This study adopts a legitimacy theory framework to examine the motivation for the disclosure of environmental information within the AR.¹ Within this framework it is argued that corporate management seeks to comply with the expectations of society, thereby gaining organisational legitimacy. Dowling and Pfeffer (1975, pp. 15-16) defined organisational legitimacy as:

Organizations seek to establish congruence between social values associated with or implied by their activities and the norms of acceptable behaviour in the larger social system of which they are a part. Insofar as these two value systems are congruent we can speak of organizational legitimacy. When an actual or potential disparity exists between the two value systems, there will exist a threat to organizational legitimacy.

Observations of a firm's success are not limited to indicators of economic performance, but may also include socially orientated interactions. As Patten (1992, p. 471) noted:

...until relatively recently, legitimacy was considered only in terms of economic performance. As long as a firm was successful (profitable), it was rewarded with legitimization.

Failure to meet societal and community expectations with respect to social performance can result in penalties or sanctions being incurred that restrict the

¹ Alternate theories such as signaling theory and political economy theory may offer explanation as to why firms will disclose information within the annual report. The justification of why legitimacy theory was adopted in preference to these alternate theories is discussed in Section 9.5.1.

activities of the firm. These sanctions in their most obvious form are the formalisation through legislation and other regulations of implicit community expectations. Sanctions can also occur in a more *ad hoc* form, for example, consumer boycotts, employee dissatisfaction, or restrictions on access to finance.

Organisational legitimisation is therefore a means of describing the corporate response to changes in community expectations. In other words, this framework seeks to explain management's response so as to avoid further explicit restrictions (such as government regulations), or implicit restrictions (such as reputation effects), on their operations. However, legitimisation through changes in operational processes may not necessarily be the optimal outcome, or a viable alternative for the firm. Hence, management may seek to achieve organisational legitimacy through alternate means, such as the justification of current actions through communication and education of influential stakeholders and society in general.

Buhr (1998) observed that a company has choices with respect to corporate legitimacy, first, in terms of performance along a spectrum of possible actions, and second, in terms of the level of environmental disclosure. These two choices are not necessarily related, as reflected by a number of studies that have found discrepancies between the level of disclosure and selected environmental performance indicators [Ingram and Frazier (1980), Rockness (1985), Rockness, Schlachter and Rockness (1986), Wiseman (1982)]. Laughlin (1991) noted that changes in reporting practices are not a reflection of changes in the internal management processes, but a reflection of an adjustment in management's perception of the importance of the issue to external parties. The process of organisational legitimisation may therefore also focus upon the flow of information from the firm to the community with emphasis on meeting information demands of specific members of the community, such as the environmental lobby. In other words, through communication, management may seek to influence expectations of the level of performance rather than making actual change, "thereby altering the definition of social legitimacy" [Dowling and Pfeffer (1975, p. 127)].

The AR, as a significant tool for corporate communication on environmental performance [Birkin and Jorgensen (1994), Deegan and Rankin (1997), Hainsworth (1996), Tilt (1994)], may be used as a means by which corporate management signals their current level of performance to the broader community. Reporting of environmental information can therefore play an important role in achieving corporate legitimacy.²

In this study the legitimisation process is tested with respect to the influence of first, the changing societal responsiveness on environmental issues over time, and second, stakeholder influence and the level of the firm's public exposure. The results of the analysis provide support for hypotheses testing an association of the level of the firm's public exposure and ERIdv; and of the changing societal responsiveness on environmental issues and the level of ERAgg.

1.3 RESEARCH METHODOLOGY

The industry in which the firm operates has been identified as a factor that influences social disclosure, although the justification for such influence is varied [Azzone, Manzini and Noci (1996), Cowen, Ferreri and Parker (1987), Dierkes and Preston (1977), Kelly (1981), Patten (1991), Roberts (1992b)]. It would be expected that firms from different industries would have a varying sensitivity toward environmental issues. This may be due to a different regulatory environment or community perceptions, and therefore different expectations upon performance [Elkington, Knight and Hailes (1991)], or industry membership may itself be a major source of a firm's public exposure, or political visibility [Panchapakesan and McKinnon (1992, p. 73)].

² The legitimisation process is therefore a means of seeking acceptance of the firm's specific activities and operations. As a consequence, management may achieve legitimacy for not only specific activities and the entity as a whole, but indirectly for the industry in which they operate. Strategies to achieve legitimacy through ER may include a focus upon the firm's specific activities or environmental performance, the firm's benefits to the wider community, or the industry's response to environmental issues. It is however not an objective of this study to examine strategies of legitimisation. Legitimisation is observed only in the broad context of the firm's response to external pressures on environmental issues.

This study controls for the influence of industry by examining a single industry: the extractive industry.

This choice of industry is justified because, first, it is the only industry within Australia that must comply with an accounting standard that requires an account for a specific environmental issue (AASB 1022 'Accounting for the Extractive Industries'), and second, it has been identified as an environmentally sensitive industry with many of the processes of extraction greatly impacting upon the natural environment [Richards (1996)]. Hence, ER is more likely to be undertaken [Deegan and Gordon (1996), Jennings (1994)]. The sample was limited to those firms within the ASX industry classifications of gold, other metals, solid fuels and oil and gas. The industry classification of diversified resources was also examined for firms primarily involved in extractive operations.

Additionally, controls in sample selection were introduced for, first, companies that are controlled offshore, and second, any effect of the temporary removal from the ASX. Further details on the sample selection process are provided in Chapter 5.

The ARs were examined for the disclosure of environmental information. The analysis was facilitated by an environmental disclosure index (EDI) comprising of 50 categories. The EDI provided, first, an understanding of the environmental information disclosed within the AR, and second, an index score for each entity so as to measure both the individual firm's level of environmental disclosure (ERIdv) and the aggregate level of disclosure for each year (ERAgg). Details on the EDI and the 50 categories are provided in Chapter 5. The following definition of the 'environment' is constructed for this thesis to provide a focus for the analysis of ER within the AR:

The environment includes all interactions between humans and their surrounds. This includes the flora, fauna, and the natural landscape of the planet. Interaction can be either negative to the environment (such as contamination or destruction), or positive (the creation of reserves or rehabilitation of past degradation).

Hypotheses are developed concerning the association between: the level of ERAgg and societal responsiveness on environmental issues; and, ERIdv and the influence of stakeholders and the firm's level of public exposure. Details concerning these hypotheses and the proxy variables for testing each hypothesis are reported in Chapter 4.

The hypotheses are tested using multiple regression and correlation analysis. The results indicate that changes in ERAgg are associated with changes in societal responsiveness on environmental issues. Further, the level of ERIdv is modified by the individual firm's level of public exposure. Discussion of the statistical analysis process and the results is provided in Chapters 7 and 8.

1.4 OVERVIEW OF THE STUDY

This study comprises nine chapters. An outline of each of the following eight chapters is provided.

Chapter 2 discusses environmental accounting, specifically focusing upon ER. This chapter explores:

- (i) The nature of the relationship between accounting and the environment, emphasising ER.
- (ii) What is environmental reporting? Reviewing the reporting requirements that influence ER and prior research concerning voluntary environmental disclosure.
- (iii) The use of the AR by external stakeholders as a source of information on corporate environmental management and performance.
- (iv) Prior research investigating the information recommended to be disclosed within the AR, which provides the basis for the development of the EDI in Chapter 5.

Chapter 3 adopts legitimacy theory to develop a framework that provides an explanatory model as to the motivation for ER within the AR. Corporate management have become increasingly accountable for the environmental performance of their firm due to an evolving regulatory framework and increased scrutiny by external parties. Management is therefore recognising the necessity of congruency between corporate actions and community values for the continuance of the firm. A corporate response to changes in community values and the evolving regulatory framework may occur via changes in the firm's processes, or alternatively by adopting a program of legitimisation of current performance through communication. Corporate ER within the AR is argued to be representative of a process of corporate legitimisation, and that such responsiveness by management is a function of, first, a general response to disturbances with respect to community values, and second, firm specific factors that modify management's level of responsiveness. Chapter 3 describes:

- (i) Corporate management responsibility within a social contract framework.
- (ii) The focus of corporate management accountability with respect to the changing expectations upon environmental management and performance.
- (iii) The argument that due to changes in corporate management accountability, there is a greater need by management to focus upon organisational legitimacy, which may be achieved through disclosure of environmental information within the AR.
- (iv) Disturbances that may be associated with corporate management's need to reassess the level of organisational legitimacy, which may result in changing levels of ER within the AR.

It is argued in Chapter 3 that the level of ER (as an outcome of management responsiveness) is representative of the legitimisation process, which is a function of:

- (i) inter period disturbances (which are associated with different levels of responsiveness between periods, thereby eliciting a system-wide response); and
- (ii) intra period factors that modify individual management's responsiveness.

Chapter 4 advances a number of hypotheses to test for associations between ER and identified disturbances and modifying variables. While prior research has provided *ad hoc* evidence of associations between specific disturbances and levels of ER observed,

the framework developed in Chapter 3 provides a model of the interaction of a number of these disturbances on the responsiveness of corporate management. The testing of the hypotheses provides evidence to support the contention that corporate management use ER within the AR to legitimise environmental management and performance, thereby minimising further external scrutiny of the firm's activities.

Chapter 5 develops the Environmental Disclosure Index (EDI) that is used to document and measure ER practices within the AR. The use of ARs is explained, and the content analysis process described, including justification and limitations of this research methodology. The 50 categories of the EDI used are described, based upon specific environment-related issues on which the firm may report as identified from a review of the literature. Analysis of the ARs is undertaken by observing themes of disclosure, with the firm then receiving a score based on the number of issues disclosed upon. This score is used as the dependent variable in the statistical analysis undertaken in Chapter 8.

Chapter 6 reports on the findings of the analysis using the EDI. The chapter discusses:

- (i) The results of the analysis, focusing on: the aggregate level of disclosure; number of firms disclosing; and, the average level of disclosure per company.
- (ii) The level of observations for each category of the EDI.
- (iii) The disclosure patterns of various general issues.

Chapter 7 describes the data collection process with respect to the independent variables identified in Chapter 4, and provides an analysis of the Societal Responsiveness on Environmental Issues (SREI) variables. It is observed that over the period 1985 to 1994 environmental legislation from Commonwealth, State and Territory governments increased from 590 to 913 Acts. With respect to environmental lobby membership, the results confirm the findings of Deegan and Gordon (1996) of continual growth in membership until 1991. However, it was also observed that post-1991 the membership of environmental lobby groups declined. The final proxy for

SREI, newspaper articles on the environment, also increased over the period of analysis.

Chapter 8 describes the results from the statistical analysis of the variables hypothesised in Chapter 4 to be associated with ERAgg and ERIdv. The Chapter reports upon the analysis of the:

- (i) ERAgg with the proxies for SREI.
- (ii) Pooled sample with the proxies for stakeholder influence and the firm's level of public exposure.
- (iii) Individual periods with the proxies for stakeholder influence and the firm's level of public exposure.
- (iv) Pooled sample with the inclusion of an aggregate proxy for SREI for each period analysed.

The results of the analysis suggest that the variables associated with the level of ERIdv have changed from satisfying the information needs of stakeholders, to a process of legitimising activities to the broader community. Of the intra-period variables it is noted that those variables that result in a higher profile for the firm, that is firm size, profit and media coverage, and that result in a wider distribution of the AR are significantly associated with the level of ERIdv.

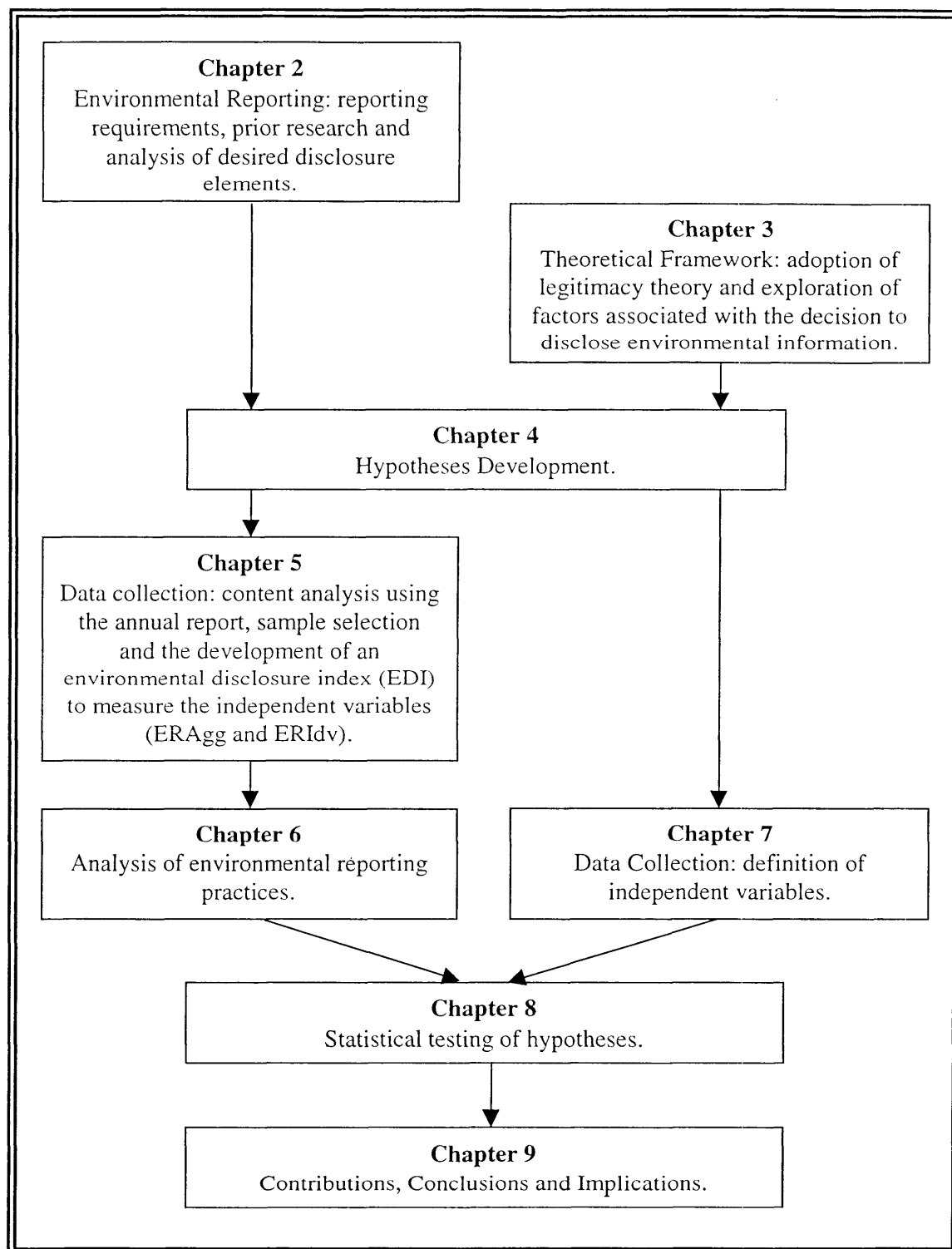
Chapter 9 discusses the contributions, conclusions, implications and limitations of this study. Four contributions of the study identified are:

- (i) ER practices vary significantly within a single industry setting.
- (ii) There is evidence of an association between societal responsiveness on environmental issues and firm responsiveness as observed by the level of ER within a legitimacy theory framework.
- (iii) Firm specific variables act as modifiers of the level of legitimisation, as observed by the level of environmental disclosure.
- (iv) The analysis has increased understanding of the changing focus of environmental information content in the ARs of Australian companies operating within the extractive industries by use of a disclosure index that observed information items in 50 categories.

Implications of the study are grouped into two areas: implications for legitimacy theory and implications for environmental reporting standards. Limitations of the study are grouped into two categories: theoretical and methodological. Finally, this Chapter identifies six avenues of further research:

- (i) Utilise the disclosure index developed to examine the extent of reporting in stand-alone environmental reports produced by the companies in the Australian extractive industries.
- (ii) Analyse other means of disseminating information on environmental performance, including site specific reports, half-yearly reporting, media releases and internet home pages.
- (iii) Test whether significant variables translate to other environmentally sensitive industries, such as the chemical industry.
- (iv) Examine whether the reporting of environmental information is comparable on an international basis.
- (v) Analyse earlier periods to further an understanding of what motivated management to initiate ER.
- (vi) Extend the analysis to observe the full scope of social responsibility disclosures.

The framework of thesis is shown below in Figure 1.1.

FIGURE 1.1: FRAMEWORK OF THE STUDY

1.5 SUMMARY

This Chapter has provided an introduction to the research problem, theoretical framework and methodology adopted. Section 1.1 introduced the research problem. Section 1.2 described the theoretical framework. This study has adopted a legitimacy theory framework to provide an explanation as to why ER practices change over time, and why differential levels of ER are observed for firms that ostensibly operate within a homogeneous social and political environment.

Section 1.3 outlined the research methodology adopted in this study. An EDI is used to quantify the level of ER within the ARs of the sample companies. The score ascertained from the EDI is used to investigate the effect of changes in societal responsiveness on environmental issues upon corporate management responsiveness, and whether responsiveness is modified by the influence of stakeholders and the firm's level of public exposure. In other words, can ER be interpreted as a means of legitimising corporate environmental management and performance in response to changes in societal concerns for environmental issues?

Section 1.4 outlined the framework of the study by providing a brief summary of each of the remaining eight chapters.

CHAPTER 2

ENVIRONMENTAL REPORTING AND THE CORPORATE ANNUAL REPORT

2.1 INTRODUCTION

This chapter reviews the development of accounting for the environment, with emphasis upon environmental reporting (ER). The purpose of this chapter is to:

- Document the development of ‘environmental accounting’ (Section 2.2).
- Discuss prior research on ER and the importance of the annual report (AR) as a source document for environmental information (Sections 2.3 and 2.4).
- Develop a framework from which an environmental disclosure index (EDI) is developed in Chapter 5 (Section 2.5).

In Section 2.2 the nature of the relationship between accounting and the environment is explored. This entails a review on what has motivated environmental accounting; and, of prior research on the accountant’s involvement in environmental management, including accounting and reporting issues.

Section 2.3 examines what is ER. This section has three parts: first, a documenting of Australian reporting regulations that may require the disclosure of information on environmental issues within the AR; second, a review of prior research observing voluntary ER; and third, a review of studies of ER in countries other than Australia.

Section 2.4 examines the AR as a source of information on corporate environmental management and performance. This section has two parts: first, a review of survey research on the use of the AR as a source of environmental information; and second, a

review of market based research that has tested for associations between the provision of environmental information and a reaction by stock markets to the firm.

Section 2.5 reviews prior research that has recommended the type of environmental information to be disclosed within the AR. This review provides the basis for a framework from which an EDI is developed in Chapter 5.

2.2 ACCOUNTING FOR THE ENVIRONMENT

...the objective of accounting is to provide a fair system of information flow between the accountant and the accountee.

Ijiri (1983, p. 75)

Increasing attention by society to environmental issues has corresponded to calls for accounting, and accountants, to become more involved in environmental management [Burritt and Gibson (1993), Hrisak (1995), Kestigian (1991)]. Evidence of accountants' involvement in environmental management in Australia is noted from research undertaken by Coopers and Lybrand (1993) and Frost and Wilmshurst (1996b). There is, however, some confusion over the role that the accountant, and accounting, can play within environmental management. Two issues generate this confusion: first, a lack of practical experience or training of many of the members of the accounting profession in the field of environmental management; and second, the inability of professionals and academics to reach consensus on what constitutes environmental accounting, and hence, how the development of appropriate measurement and reporting processes should be approached. Notwithstanding this, evidence suggests environmental accounting is developing as an integral part of the corporate response to environmental issues [Epstein (1996), Kreuze and Newell (1994), Russell, Skalak and Miller (1994), Smith and Lambell (1997)]. This section outlines the development of accounting for the environment.

2.2.1 ACCOUNTING FOR THE ENVIRONMENT - A GROWING UNDERSTANDING

Interest in the accountant's role in the environmental agenda has increased in the 1990s [Gray (1994)]. When issues related to environmental accounting were first raised in the 1960s, the weight of arguments against accountants becoming involved in so-called 'social accounting' matters outweighed the positive side of the debate [Kestigian (1991, p. 20)]. Issues such as: the belief that the accountant was not the most appropriate individual to report on environmental and social issues; and, accounting was merely a tool to report financial information, saw social issues such as the environment marginalised within the accounting agenda. However, over recent years the debate has moved from focusing upon whether or not accounting should be involved, to exploring what accounting can contribute to the management of the interaction between an organisation and the environment [Corrigan (1998), Kestigian (1991), Wilmshurst and Frost (1998)].

Gray (1994, pp. 9-10) attributes this increase in interest to four related factors that have provided a platform for the development of environmental accounting. In summary these factors are:

1. The disenfranchisement of members of the accounting profession who were part of the 'greed culture' of the 1980s. The practical counter point of this movement was the plant closure and local authority social audits [Geddes (1992), Harte and Owen (1987), (1991)]. On a theoretical level this was mirrored by the exploration of the political economy of accounting [Cooper and Sherer (1984), Guthrie and Parker (1989), (1990)] and the further development of the concept of accountability [Gray (1983); Gray, Owen and Maunders (1986), (1987), (1988), (1991), Pallot (1991), Roberts (1991), Roberts and Scapens (1985), Williams (1987)].
2. The resurgence of academic interest in corporate social responsibility that had been neglected by mainstream accounting research.
3. The emergence of: ethical and environmental investment trusts [Harte, Lewis and Owen (1991), Perks, Rawlinson and Ingram (1992)]; the ethical and environmental consumer movement [Adams (1990), Adams, Carruthers and Hamil (1991), Elkington and Hailes (1988), (1989)]; 'new economics' in both theory and practice [Daly and Cobb (1990), Ekins (1992a), (1992b)]; the rediscovery of 'community values' and 'community organisations' [Dauncey

(1988), Geddes (1992)]; and, the growth, expansion and maturation of environmental groups [Deegan and Gordon (1996)].

4. This development is set in a backdrop of a continuing development in and understanding of environmental (and social) accounting and related matters [Gray, Owen and Maunders (1987), (1988), (1991), Guthrie and Mathews (1985), Guthrie and Parker (1989), (1990), Mathews (1984), (1985), (1987), Parker (1986)].

It is noted that the current interest in environmental accounting is not the exploration of a new theme, for research on environmental (and social) accounting has been undertaken sporadically over many years [Gray (1994), Kestigian (1991)].³ The question to be asked is: What is the role of the accountant within environmental management?

2.2.2 THE ACCOUNTANT AND THE ENVIRONMENT

Community interest with respect to the natural environment, and the impact of businesses upon it, has escalated over recent years [Epstein (1996)]. With a perceived need for an increased role of accounting in environmental management, the question of how practicing accountants are responding is often raised. However, the suggestion of accounting, and therefore accountants', involvement in environmental management still leaves many outside the profession (and quiet a few within the profession) perplexed as to how this involvement should occur [Rubenstein (1992)]. Prior research has suggested many accountants are unaware, or are ill equipped, to deal with environmental issues within their organisation. A selection of studies that have examined the accountants' involvement in environmental management are summarised in Table 2.1.

³ Hogner (1982) and Guthrie and Parker (1989) observed that corporate social responsibility reporting in practice has a long and sporadic history.

TABLE 2.1: STUDIES ON ACCOUNTANTS AND ENVIRONMENTAL ACCOUNTING

Study	Country	Sample	Conclusions
Bebbington, Gray, Thomson and Walters (1994)	United Kingdom	CFOs Top 1000 companies	No significant response to environmental management.
Coombes and Davey (1994)	New Zealand	Accountants from Top 200 companies and a number of public sector entities	Limited involvement. Unsure of how to contribute.
Geddes (1994)	Australia	Practicing Accountants	Marginal support for accounting standards to address environmental reporting.
Frost and Wilmshurst (1996b)	Australia	CFOs Top 500 listed companies	Opposed imposition of mandatory standards. Limited involvement in environmental management.
Hainsworth (1996)	Australia	Top 500 listed companies	Opposed to mandatory accounting standards.

From a postal survey of chief financial officers (CFOs) of the top 1000 United Kingdom (UK) companies, Bebbington, Gray, Thomson and Walters (1994) found the majority of CFOs were “not responding to the environmental agenda” in a significant way. They concluded from the results that “accountants are not exercising anything like the level of involvement that is necessary for a full corporate response to the environment” (p. 114).

A survey of accountants from New Zealand’s top 200 companies plus a number of government reporting entities found that although accountants were concerned with the environment, it was “not actively transferred into their accounting *milieu*” [Coombes and Davey (1994, p. 21)]. Further, it was suggested that although accountants believed “they can contribute to the environmental responsibility of their organisation... (they) are often unsure of how to at this stage” (p. 21). The study concluded by echoing

Gray, Bebbington, Walters and Thomson (1995), stating “that the prognosis for accountants encouraging environmentally responsible organisational change and developing environmental accounting systems is less than promising” (p. 21).

A survey of Australian accountants (of which 80 per cent were partners in accounting firms), reported that there was marginal support for the view that environmental issues should be incorporated within the external reporting functions of business entities [Geddes (1994)]. On average the survey respondents considered that environmental information was not material to users of the AR.

A postal survey of CFOs from Australia’s top 500 listed companies found that many respondents were opposed to the provision of guidelines on the disclosure of environmental information within the AR [Frost and Wilmshurst (1996b)]. The study reported that many accountants had little involvement in environmental management activities, such as the reporting of environmental information. Further, it was noted that many accountants felt that environmental management issues lay outside their expertise. A concluding observation suggested that many respondents appeared unsure as to what role they should undertake within environmental management, and therefore many respondents did not see a role for the accountant as an advocate for environmental management.

A survey undertaken by the Australian Institute of Chartered Accountants’ Task Force on Environmental Accounting reported that many AR preparers were opposed to mandatory requirements on environmental accounting, as well as the accounting profession providing guidelines on environmental reporting [Hainsworth (1996)]. However, many of the views of the preparers differed significantly with the views of users of ARs who in general desired further information on the interaction between reporting entities and the environment.

Arguably many practicing accountants, both in industry and the profession, may not yet consider environmental accounting a significant issue. This lack of interest correlates with observations of opposition to the introduction of mandatory environmental reporting requirements in Australia [Frost and Wilmshurst (1996b), Geddes (1994), Hainsworth (1996)]. Such findings may be partially explanatory as to the limited development of standards on ER as discussed in the next section.

2.3 ENVIRONMENTAL REPORTING

From environmental accounting's beginnings, as a subset of corporate social reporting (CSR)⁴, environmental accounting has now gained its own identity. Chadwick, Rouse and Surma (1993, p. 18) described environmental accounting as:

Accounting for the cost of past, present and future environmental activities (any activity which could, or will affect the natural environment) is becoming increasingly important, although there are few definitive standards. Often it is difficult or impossible to predict the actual extent of a newly discovered contamination problem, much less the cost of cleanup. Such 'fuzzy' situations do not lend themselves to easy measurement and disclosure in financial statements.

Environmental reporting and the information needs of external stakeholders have been a primary focus of recent environmental accounting research [Roberts (1991)]⁵, as it has developed as an identifiable issue within research on CSR.⁶ However, research on ER has often not been focused in its objectives, first due to the adoption of numerous theoretical paradigms on *what* environmental information should be reported, and

⁴ Various titles have been used to describe CSR, including social accounting, social and environmental accounting, social responsibility accounting, social auditing, etc. These are all considered to represent the same phenomenon, that of the reporting information on social responsibility issues.

⁵ Studies on ER include: Allen (1993), Birkin and Jorgensen (1994), Brown and Deegan (1998), Buhr (1998), Cooper (1988), Deegan and Gordon (1996), Deegan and Rankin (1996), Dierkes and Preston (1977), Gamble, Hsu, Kite and Radtke (1995), Goodwin, Goodwin and Konieczny (1996), Gray (1993), (1994), Gray, Kouhy and Lavers (1995a), Guthrie and Parker (1989), (1990), Harte and Owen (1991), Johnson (1993), Neu, Warsame and Pedwell (1998), Owen (1994), Rockness, Schlachter and Rockness (1986), and Wiseman (1982).

⁶ The accounting profession has been reprimanded in the 'environmental press' for not being equipped "to provide good environmental or other internal cost information" [*Environmental Manager* (1993, p. 5)], which questions the emphasis on external reporting research.

second, due to the lack of consensus as to *how* environmental information generated should be reported.⁷ Key issues to be resolved by environmental and social reporting research, as noted by Eddey (1983, p. 57), include:

1. Whether social accounting measures should all be measurement based, or is non-quantitative, narrative type reporting acceptable.
2. Whether social accounting measures should all be in financial terms or are non-financial measurements acceptable.
3. Whether social accounting disclosures are to be audited or not, and if so what are the appropriate audit techniques.
4. Whether the accountant is adequately equipped to perform a social measurement function or should others such as economists, sociologists and political scientists be involved.

Gray, Owen and Maunders (1987, p. ix) suggested the role of environmental (and social) financial reporting as:

...the process of communicating the social and environmental effects of organisations' economic actions to particular interest groups in society and society at large.

Guthrie and Parker (1990) suggested social (and environmental) reporting could serve three major purposes:

1. Providing a comprehensive view of the organisation and its resources.
2. Providing a constraint upon socially irresponsible corporate behaviour.
3. Providing positive motivation for the corporation to act in a socially responsible manner.

Hence, a role for ER is the dissemination of information to external parties, particularly financial data. Supportive of this role, Allen (1993a, p. 16) suggested "the annual report is an ideal vehicle for achieving environmental kudos for enlightened companies by:

⁷ A criticism of ER is that it is "of an ad hoc, unsystematic nature, partial in terms of the range of corporate impacts addressed, lacking in the provision of comparative data against which performance may be judged, public relations driven, lacking independent attestation, and largely qualitative and descriptive with a paucity of financial data and lack of integration with main accounts" [Owen (1994, p. 32)].

- publicising the environmental policy;
- encouraging monitoring of environmental impacts, standard-setting and assessment of environmental liability;
- informing wider groups of stakeholders including the growing group of 'green' and ethical investors, and green consumers;
- disclosing separately, and making explicit organisations' environmental impacts and issues in terms of such matters as degradation, sustainability of operations; and
- resetting targets to achieve continuing environmental quality improvement."

Notwithstanding the discussion on ER, substantive progress on formal reporting standards has been slow, exacerbated by many accountants being either unprepared, or unsure of how they are able to contribute, on a professional level, to environmental management. There are, however, a small number of regulations that may result in the disclosure of information on environmental issues by Australia companies in their AR.⁸ This section explores ER by reviewing: first, accounting regulations that may require the disclosure of information on environmental issues by Australian companies; second, studies observing voluntary ER by Australian companies; and third, observations of ER in an international context. This review will provide an initial understanding of why companies undertake ER.

⁸ Of interest is that certain social responsibility disclosures almost became mandatory in Australia when a Corporation and Securities Industry Bill was approved by the House of Representatives. However, because of political upheavals, the bill was shelved in 1975. From the bill Schedule 3, Clauses 3(z) to (zc) required disclosure of the following information in annual reports:

- i) Particulars of the relations in the financial year between the corporations in the group and their employees and particulars of personnel and employment policies;
- ii) Particulars of arrangements made in the financial year by the corporations in the group for protecting the safety and health of their employees;
- iii) Particulars of arrangements made in the financial year by the corporations in the group for protection the safety and health of the public and for protecting the environment in relation to their activities; and
- iv) Particulars of arrangements made in the financial year by the corporations in the group for the protection of consumers of their goods and services.

2.3.1 REGULATORY REQUIREMENTS AND ENVIRONMENTAL REPORTING

For the period to 1994 Australia had no explicit environmental reporting standards, however there were a number of existing regulations that affected the reporting of environmental information.

In 1976 AAS 7 “Accounting for the Extractive Industries” was issued, and was later adopted in 1989 by the Accounting Standards Review Board as ASRB 1022 “Accounting for the Extractive Industries”, which became AASB 1022 with the creation of the Australian Accounting Standards Board. Presently it is the only Australian accounting standard that explicitly directs Australian corporate entities to recognise a specific environmental issue - restoration and rehabilitation of abandoned mining sites. Section 40 of AASB 1022 states:

Where there is an expectation that an area of interest will be restored:

- (a) the cost of restoration work necessitated by exploration, evaluation or development activities prior to commencement of production shall be provided for at the time of such activities and shall form part of the cost of the respective phase(s) of operations;
- (b) the cost of restoration work necessitated by any activities after the commencement of production shall be provided for during production and shall be treated as a cost of production; and
- (c) in determining the amount to be provided in any one financial period, the balance of the provision for restoration costs, after charging against it actual costs incurred to date, shall be reassessed in the light of expected further costs.

It is important to note that both AASB 1022 and AAS 7 do not require information on restoration obligations be disclosed. The issue in 1995 of Urgent Issues Group (UIG) consensus *UIG Abstract 4: Disclosure of Accounting Policies for Restoration Obligations in the Extractive Industries* (UIG 4) provided the first explicit directive for separate disclosure of a provision for restoration and the accounting policies adopted

for recognition and measurement. UIG 4 became effective from 6 October 1995.^{9,10} The purpose of the abstract was to clarify AASB 1022 with respect to restoration obligations. Section 19 of UIG 4 states:

That the UIG require reporting entities in the extractive industries to disclose, where material, by way of note to the financial reports:

- separately, the amount recognised in the financial report for restoration obligations as at the reporting date; and
- where different, the estimated total amount of restoration obligations the entity estimates has arisen from activities undertaken up to the reporting date and the basis on which that amount was determined.

UIG 4 does not offer guidance on the measurement of restoration obligations reported in the financial statements.

The development of a conceptual framework for financial reporting in Australia has not to-date provided further movement towards the standardisation of the accounting for environmental issues. In some instances it may possibly discourage the recognition of certain environmental issues. The definition of a liability under the Statement of Accounting Concept 4 (SAC 4) - “Definition and Recognition of the Elements of Financial Statements” states that liabilities are “the future sacrifices of service potential or future economic benefits that the entity is presently obliged to make to other entities as a result of past transactions or other past events” (para. 46). As such, a company’s future commitment to correct past or present environmental damage may never appear in the financial statements, for such a future sacrifice may not be considered an obligation to a recognised external entity.

⁹ The role of the UIG is to provide timely guidance on urgent financial reporting issues. UIG releases receive their authority from APS 1 “Conformity with Accounting Standards and UIG Releases” which applies to members of the ICAA and ASCPA.

¹⁰ This marks 1995 as the first year in which accounting standard setters in Australia issued a guidance statement upon the reporting of a specific environmental issue for the extractive industry. This motivates the restriction of the analysis in this thesis to the period ending 1994 so as to observe primarily voluntary ER practices. This is further discussed in Section 5.2.1.

Schedule 5 (clause 23) of the Australian Corporations Act¹¹ required companies to disclose information on contingent liabilities. For example, in situations where an entity was facing legal action for breaches in environmental regulations, they were required under clause 23 to report such matters.¹² This is subject to the criteria of materiality,¹³ and for reporting purposes the situation needed noting. However, the nature of contingent liabilities allowed many corporate entities to avoid reporting such information because there is doubt, or uncertainty, over the likelihood of the outcome. From management's perspective, to recognise the liability may be seen as an indication of some form of responsibility for the situation.^{14,15,16}

Accounting 'rules' have been predisposed to the concealing (through consolidation of accounts) of environmental information that may have been deemed immaterial [Frost and Wilmshurst (1996b)]. For example, although many firms in the chemical industry incur expenditure with respect to waste disposal and related issues, information on such work may be 'lost' within miscellaneous expense accounts. Information on cash expenditures with respect to environmental management may also be 'lost' in miscellaneous accounts within the cash flow statement. Hence, without explicit requirements that companies note specific environmental issues within the financial statements, information on the environment may be aggregated within financial

¹¹ In 1997 this schedule was revised and replaced by AASB 1034 "Information to be Disclosed in Financial Reports". Prior to 1 January 1991 when the Corporations Act became effective, this was Schedule 7 of the companies code.

¹² Contingent Liabilities are now covered by Clause 7.2 of AASB 1034 "Information to be Disclosed in Financial Reports".

¹³ As defined by AASB 1031 "Materiality".

¹⁴ As observed by the paucity of information provided on the *Iron Baron* and the Ok Tedi incidents within BHP's 1994/95 annual report.

¹⁵ An amendment to the Corporations Law in 1998 by the *Corporations Law Simplification Act* now requires companies to include environmental information within the director's report. Section 299(1)(f) requires disclosure within the AR of the company's performance with respect to environmental regulations if the company's operations are subject to significant environmental regulation. This requirement may mandate companies in the future to provide further detail on issues such as non-compliance with environmental laws. However, it will not influence the period analysed in this study.

¹⁶ To complement the reporting requirements of accounting standards and corporations law the Auditing Standards Board in 1998 released Audit Guidance Statement AGS 1036 "The Consideration of Environmental Matters in the Audit of a Financial Report". The purpose of this statement was to raise the awareness of auditors as to the importance of environmental issues with respect to corporate performance, and observe that all material information on environmental performance is included within the financial statements.

accounts. This could result in a number of dependent users not receiving information relevant to their decision-making needs on environmental issues within the AR. Only information that corporate management have deemed relevant, or material, have a mandatory requirement to be reported.¹⁷ Given the paucity of regulatory environmental reporting requirements, the decision to disclose environmental information is therefore primarily a voluntary action undertaken by corporate management.

2.3.2 ENVIRONMENTAL REPORTING – OBSERVATIONS OF VOLUNTARY PRACTICES IN AUSTRALIA

Prior research has indicated that many Australian companies voluntarily disclose environmental information within their AR. Selected prior Australian studies of ER within the AR are summarised in Table 2.2.

¹⁷ Internationally only a small number of countries have specific regulated guidelines in regard to environmental reporting, including Norway, Canada and the USA. However, existing regulations will have some impact on the disclosure of environmental information [Gray (1994), Gray, Bebbington and Walters (1993), Rubenstein (1992)].

TABLE 2.2: AUSTRALIAN STUDIES OF VOLUNTARY ENVIRONMENTAL DISCLOSURE

Study	Sample	Information Observed	Primary Conclusions
Trotman (1979)	100 largest companies (market capitalisation) (1967, 1972 and 1977)	Social responsibility themes	Significant increase in disclosure over period analysed (for environment from 6% to 35%).
Kelly (1981)	50 selected companies (1969-1978)	Social responsibility themes	Larger firms tend to disclose more information. Primary and secondary industries disclosed more environmental information. Level of environmental reporting increased over the period analysed.
Trotman and Bradley (1981)	207 companies (1978)	Social responsibility themes	Decision to disclose significantly associated with firm size, high risk (Betas) and decision horizon of management.
Pang (1982)	70 largest firms (market capitalisation) and 30 randomly chosen (1980)	Social responsibility themes	Larger firms more likely to disclose. Industry influenced level of disclosure on environment and energy.
Guthrie and Parker (1989)	BHP – 100 years of reporting	Social responsibility themes	Social reporting has long history. Does not appear to match significant social events (with possible exception of environment in the 1970s)
Deegan and Gordon (1996)	197 companies from 50 industries (1991) and 25 companies over the period 1980-1991	Environmental disclosures	36 percent disclosed environmental information. Majority of information positive. Disclosure concentrated in environmentally sensitive industries. Disclosure increased significantly over the period 1980-1991.

TABLE 2.2: AUSTRALIAN STUDIES OF VOLUNTARY ENVIRONMENTAL DISCLOSURE (CONT.)

Study	Sample	Information Observed	Primary Conclusions
Deegan and Rankin (1996)	20 companies prosecuted for environmental offences – matched against 20 companies not prosecuted (1990-1993)	Environmental disclosures	Higher disclosure observed in companies that were prosecuted. Disclosure increased post prosecution. Most disclosure of a positive nature.
Burritt and Welch (1997)	60 commonwealth government entities (1984-1993)	Environmental disclosures	Disclosure increased significantly over the period analysed.
Kent, Kwong and Marshall (1997)	9 chemical companies (1993-1994 annual report)	Social responsibility and environmental disclosures	Company size is significant. Primarily positive environmental disclosures.
Christopher, Cullen and Soutar (1998)	104 Australian mining companies (1993)	Environmental disclosures	Larger companies who are members of Australian Mining Industry Council provided better quality voluntary environmental disclosure, possibly due to a higher public profile.
Tilt and Symes (1999)	70 Australian companies (1994)	Environmental disclosures	Mining Companies disclose a greater amount of environmental information. This primarily related to disclosures on restoration obligations.

Guthrie and Parker (1989) in a study of 100 years of BHP ARs confirmed social reporting as a long established practice, however observations of ER were intermittent appearing first in the 1950s, recurring in the 1970s and then again in the 1980s. A review of 25 Australian firms (representing 16 industries) for the years 1980, 1985, 1988 and 1991 found environmental disclosure (in terms of number of words) had increased notably, with a rapid increase from 1988 to 1991 [Deegan and Gordon (1996)]. The results of this study are reproduced in Table 2.3.

**TABLE 2.3: MEAN AMOUNT OF POSITIVE AND NEGATIVE DISCLOSURES
(NUMBER OF WORDS)**

	1980	1985	1988	1991
Mean amount of positive disclosures	12	14	20	105
Mean amount of negative disclosures	0	0	0	7
No. of companies in each year = 25				

Source: Deegan and Gordon (1996, p. 191).

The study by Deegan and Gordon (1996) confirmed a trend of increasing disclosure of environmental information previously observed by Kelly (1981), in the period 1969 to 1978, and Trotman (1979) over the years 1967, 1972 and 1977. Research in Australia has also shown:

- Reporting companies were primarily concentrated within what are considered the environmentally sensitive industries [Allen (1993a), Deegan and Gordon (1996), Kelly (1981), Pang (1982)].
- ER appeared more commonly in the ARs of larger companies [Kelly (1981), Kent, Kwong and Marshall (1997), Pang (1982), Trotman and Bradley (1981)].
- Disclosure was primarily of a positive nature [Deegan and Gordon (1996), Deegan and Rankin (1996), Kent, Kwong and Marshall (1997)].

2.3.3 ENVIRONMENTAL REPORTING - INTERNATIONAL STUDIES

Studies on ER have not been limited to Australia. Selected prior international studies are summarised in Table 2.4.

TABLE 2.4: INTERNATIONAL STUDIES ON VOLUNTARY ENVIRONMENTAL DISCLOSURE

Study	Sample	Information Observed	Primary Conclusions
Bowman and Haire (1976)	82 food processing companies (1973) - US	The existence of SRDs	31 disclosed social responsibility information (51 did not).
Ingram and Frazier (1980)	40 firms from 4 industries - US	Four testable dimensions – evidence, time, specificity and theme	Poorer environmental performers contained more narrative environmental disclosures than the better performers. A weak association between content and performance.
Hogner (1982)	US Steel (1901-1980)	Social Disclosure practices.	Corporate social reporting is an old idea with a practical base. Frequency of occurrence depends on a matrix of societal forces.
Wiseman (1982)	26 large companies in the steel, oil and paper and pulp industries - US	An index of 18 environmental issues	Environmental disclosures were incomplete when compared to the index developed. No relationship between the measured contents of a company's environmental disclosures and environmental performance.
Rockness, Schlachter and Rockness (1986)	21 major chemical companies (1980-1983) - US	Selected environmental information categories	Further performance information may be warranted to meet investors needs. Suggests that contingent liabilities with respect to hazardous waste sites immaterial (not reported).
Guthrie and Parker (1990)	50 largest companies Australia, UK and US (47) (1983)	SRDs, evidence, amount and location	56% Australian, 98% UK and 85% US companies disclosed social information. Significant difference in disclosure levels, content themes, methods and locations of disclosure. 21% Australian, 14% UK and 58% US companies disclosed environmental information.
Harte and Owen (1991)	30 companies identified as 'good' disclosers – UK	Observed the disclosure of environmental information and the type of disclosures made	Observed that even in 'good' disclosers little specific detail was provided, and that environmental information was still at a very general level, not far removed from a mere general commitment to green issues. Disclosures were not directly related to quality of actual performance.
Patten (1992)	21 companies in the petroleum industry obtained from Fortune 500	Change in environmental disclosure comparing reporting practices pre- and post- <i>Exxon Valdez</i> oil spill	Firms disclosed significantly more environmental information in the AR immediately after the <i>Exxon Valdez</i> oil spill compared to previous reporting period. Degree of change was greater for firms of a larger size and if a member of Aleyeska Pipeline Service Co (oil companies including Exxon operating in Alaska).

TABLE 2.4: INTERNATIONAL STUDIES ON VOLUNTARY ENVIRONMENTAL DISCLOSURE (CONT.)

Study	Sample	Information Observed	Primary Conclusions
Gamble, Hsu, Kite and Radtke (1995)	234 companies (12 industries) – 1986-1991 both 10K and annual reports - US	Descriptive disclosure index of environmental issues – different for the two types of reports	Total disclosure increase significantly from 1989 for both 10Ks and annual reports. Petroleum refining, hazardous waste management, and steel works and blast furnaces provided the highest quality disclosures (industry effect). Overall quality of environmental disclosure was low.
Gray, Kouhy and Lavers (1995a)	444 random observations 1979-1987, top 100 companies 1988-1991 - UK	Social Responsibility Disclosure index	Change in reporting behaviour over period analysed with an observed increase in information disclosed (particularly environment information post 1988). Size appears to be an important factor in determining voluntary disclosure. Some support that environmental reporting was used for legitimisation purposes.
Fekrat, Inclan and Petroni (1996)	168 companies, 6 industries, 18 countries (1991)	Environmental Disclosures – Wiseman (1982)	Variation of disclosures between industries. No apparent relationship between performance and disclosures. Level of disclosure varies between countries.
Hackston and Milne (1996)	47 of the top 50 companies as listed on the NZ stock exchange based on market capitalisation (1992)	Measured corporate social responsibility disclosures using content analysis of the annual report. Classified information into categories of location, amount, theme and voluntary/mandatory	Size and industry were significantly associated with amount of disclosure, while profitability was not. Size-disclosure relationship much stronger for high profile than low profile industries. Provided limited evidence that country of origin also related to disclosure quantity.
Buhr (1998)	Falconbridge (mining and smelting nickel) (1964-1991) - Canada	Environmental disclosures	Changes in themes of disclosure, for example an increase emphasis on 'political' matters. A move from disclosure of fact to making 'claims' and 'promises' in last 3 years analysed.
Neu, Warsame and Pedwell (1998)	15 Canadian public companies in each of the mineral extraction, forestry, oil and gas, and chemical industries (1982-1991)	Environmental disclosures (words).	Reporting practices associated with shareholder concerns, media coverage and general level of societal attention.

Observations of corporate ER in the UK lead Gray (1993, p. 36) to state “systematic approaches to environmental reporting are rare. When reporting does take place, it is predominantly a big company phenomenon and tends to be patchy and bland”. An UK Institute of Chartered Accountants’ 1990-91 Financial Reporting Survey [discussed in Allen (1993b, p. 61)], found environmental disclosures within ARs of companies:

- ...(tended) to provide only ‘good news’; and
- ...more environmental reporting can be seen among companies with either vested interests in the natural environment or which are subject to pressures from public or regulatory authorities (chemicals, petroleum, water and power companies, for example).

A study by Wiseman (1982) of voluntary environmental disclosures in the ARs of 26 of the largest United States (US) companies in steel, oil and pulp and paper industries found that much of what was disclosed was incomplete and inadequate. Wiseman (1982, p. 60) further stated “voluntary environmental reports are inconsistent across firms, incomplete and often provide only general accounts of environmental performance by corporations”, concluding “the usefulness of environmental reports contained within the annual report for inter-company performance comparisons is questionable”.

A survey of 131 company ARs in the UK found nineteen reported on environmental protection, with only eight providing information on energy conservation [Mirza (1987)]. From the study it was concluded “there is room for improvement in both depth and breadth of social accounting practices in the company’s annual reports in Great Britain” [Mirza (1987, p. 50)]. A study by Guthrie and Parker (1990) of the social disclosure practices among the leading companies in the US, UK and Australia, found Australian companies lagged behind companies from the other countries in their social reporting practices, with only 56 per cent of Australian companies making any form of social disclosure, compared to 98 per cent in the UK and 85 per cent in the

US.¹⁸ Guthrie and Parker (1990, p. 172) concluded “a sizeable proportion of corporate social disclosures appears to be made reactively rather than proactively” and that companies “appear to respond to government and public pressure for information about their social impact but may choose to disclose such information only to the minimum degree required to subdue the calls for further disclosure or regulation”. These studies again emphasise considerable differences in the ER practices of reporting entities.

2.4 THE CORPORATE ANNUAL REPORT AS A SOURCE OF ENVIRONMENTAL INFORMATION FOR EXTERNAL PARTIES

Due to limited reporting requirements on environmental issues, the disclosure of environmental information is often a voluntary component of the AR and subsequently has been criticised for being incomplete, undertaken on an *ad hoc* basis, with little consistency among reporting entities, or over periods of time [Owen (1994)].¹⁹ Although many organisations express concern for the environment, and seek to foster a positive public image on corporate environmental responsibility and performance, it would appear, based upon prior research, only a limited number of firms disclose environmental information, with the quality and subsequent usefulness of such information being questioned. Supportive of this the Commonwealth Environmental Protection Authority (CEPA) (1994, p. 2) stated:

Community awareness of environmental issues has risen markedly in recent years. Australians have become more aware that they could be exposed to toxic chemicals and hazardous materials either as a result of accidental or regular and continuous discharges, or from the use of products in the workplace. However, this consciousness has not been matched generally by increased availability of information.

¹⁸ It was found that when only voluntary disclosures were examined Australian and UK disclosure levels were comparable (around 56%). Mandatory reporting requirements in the UK covered issues such as charitable and political donations, disabled employee policy, conditions of South African workers and employee consultation and communication policy.

¹⁹ A survey of accountants found that there was little consensus regarding the objectives and measurement approaches to be adopted in environmental accounting, that current environmental disclosures are typically inadequate and incomplete and from the respondents' perspective the disclosure practices are typically deficient [Geddes (1994)].

However, the AR remains an important source of information on corporate management's responsiveness to environmental issues, for it is an "authoritative statement of corporate performance, policy, objectives and culture" [Birkin and Jorgensen (1994, p. 10)]. Research on the use of the AR can be divided into two categories: (i) survey research on stakeholders' use of information; and, (ii) market based research on reactions to various CSR events.²⁰

2.4.1 SURVEY RESEARCH

Selected studies that have surveyed the use of social and environmental information within the AR are summarised in Table 2.5.

Survey research undertaken on the use of CSR within the AR has primarily focused upon investors/shareholders as the major user groups, and their opinions of the usefulness of such information. A survey of institutional investors by Longstreth and Rosenbloom (1973) observed that many of the respondents took social considerations into account when selecting and reviewing investments.²¹

²⁰ The focus of this analysis is on CSR research that typically includes environmental disclosure.

²¹ The institutional investors surveyed included religious organisations, universities, foundations, insurance companies, banks and mutual funds.

TABLE 2.5: STUDIES ON THE USE OF THE ANNUAL REPORT AS A SOURCE OF SOCIAL AND ENVIRONMENTAL INFORMATION

STUDY	SURVEY SAMPLE	PRIMARY CONCLUSIONS
Longstreth and Rosenbloom (1973)	Institutional investors	Although some desired social information, many were not concerned with social performance.
Buzby and Falk (1978)	Mutual fund directors	A substantial number of funds considered some social information in their investment decision.
Buzby and Falk (1979)	University investors	Were not interested in social information.
Rockness and Williams (1988)	Directors of social responsibility mutual funds	A strong demand for many types of social information.
Harte, Lewis and Owen (1991)	Fund managers of British ethical or environmental funds	Annual reports were an important source of environmental information.
Epstein and Freedman (1994)	3000 randomly selected individual investors. 246 responses received	Investors feel it is more important to stop pollution and improve product safety than to pay higher dividends. Investors want more social information than is currently disclosed. This information should also be independently verified.
Tilt (1994)	146 pressure groups. 59 useable responses, the majority of respondents coming from the environmental lobby	Annual reports appeared as the preferred place for disclosure, although they were rarely chosen as the only place. Support for standards to require disclosure.
Hainsworth (1996)	118 responses from shareholders, stockbrokers/analysers, accounting academics, financial institutions, organisations performing a review function	There exists an expectation gap between what users desire, and what is actually reported. Suggests that many users would include environmental information in their decision making process.

A survey of US mutual fund directors found that a substantial number considered some social information in their investment decisions [Buzby and Falk (1978)]. However, many of the respondents did not consider eight of the nine categories of social information to be as important as a group of six selected financial items. A survey of University CFOs seeking to determine the demand for, and importance of, nine social information items for investment purposes suggested that university investors did not have a strong demand for social information [Buzby and Falk (1979)]. The study further noted that University investors did not take into account an organisation's involvement in so called 'negative social activities'.

A survey of the directors of US socially responsible mutual funds found a strong demand for social information [Rockness and Williams (1988)], but failed to identify a strong demand for specific social disclosures. This study did observe that the AR was only one of a number of sources of information used in the determination of corporate social responsibility. Results from a survey of managers of UK ethical and environmental funds supported the findings of Rockness and Williams (1988), concluding that although ARs were an important source of information, other sources were also utilised [Harte, Lewis and Owen (1991)].

A survey of non-institutional US shareholders found that they were interested in having companies report on certain aspects of their interaction with society [Epstein and Freedman (1994)]. The demand appeared to be strongest for information about product safety and quality, and the company's environmental activities. The study also found that the majority of the shareholders surveyed desired information on company ethics, employee relations and community involvement. However, it was concluded that the demand for further CSR was not as strong as the demand for further financial disclosures.

A survey of Australian social pressure groups provided evidence that these groups were users of corporate social disclosures [Tilt (1994)].²² The study found that the AR “appeared as the preferred place for disclosure, although they were rarely chosen as the only place” [Tilt (1994, p. 63)]. This was attributed to the inadequacy of the information within many ARs. The results of the study provide support for the contention that public interest groups, and society in general, are among the key users of corporate social disclosures within the AR [Estes (1976), Ogan and Ziebart (1991)]. Further, the results support prior research [Allen (1993a), Gray (1993)] that across companies the AR is not yet a source of consistent, reliable information on environmental management and performance.

A survey of Australian users of ARs reported that 43 percent of respondents sought environmental information from other sources such as the media, separate environmental reports, or ethical investment funds [Hainsworth (1996)]. However, this was a smaller proportion than those users seeking environmental information from the AR (67.8 percent). These findings highlight the importance users place upon the AR as a source of information on environmental performance and management. The results of the study were further analysed by Deegan and Rankin (1997). They concluded that shareholders and individuals with an oversight function considered environmental information to be material to particular decisions, and that the AR was perceived by respondents to be significantly more important than other sources of information concerning the firm’s interaction with the environment.

2.4.2 MARKET BASED RESEARCH

The second focus of research on the use of CSR within the AR has been market-based research. Researchers have tested for associations between the information provided within the AR and a reaction by the stock market to individual companies. This type

²² The majority of the social pressure groups surveyed, and those that responded, were environmental organisations (47 of the 59 useable responses).

of research is based on the hypothesis that social and environmental disclosures reduce investors' informational uncertainty [Ullmann (1985, p. 541)].

A study by Belkaoui (1976) found that the market reacted differently to those firms which disclosed pollution control information than those that did not disclose such information. It was later found that firms that disclosed social information outperformed non-disclosing firms, and that portfolios that disclosed social information for two continuous years outperformed portfolios that disclosed social information for only one year [Anderson and Frankle (1980)]. In addition, it must be noted that other studies [Ingram (1978), Shane and Spicer (1983), Spicer (1978b)] have found not only a relationship between financial performance and environmental performance, but also a subsequent relationship between financial performance and social disclosure.²³ A study of the relationship between security price movement and the release of externally produced information about pollution control performance observed a market reaction [Shane and Spicer (1983)]. An analysis of stock market reaction to disclosures by US companies' in 1977 of their signing of the Sullivan Principles with respect to business dealings with South Africa concluded that there was evidence of investor use of social responsibility information [Patten (1990)].

2.5 ENVIRONMENTAL INFORMATION AND THE ANNUAL REPORT

2.5.1 USERS INFORMATION NEEDS - AN OVERVIEW

Given the voluntary status of ER, the criticism of the *ad hoc* nature of such disclosure, and of the suggested importance and use of environmental information, a number of organisations and researchers have provided guidelines as to what information should be disclosed. A survey by KPMG (1993) of statements and studies on what

²³ This may provide support for an argument that more profitability firms are more likely to devote resources to social performance.

environmental information should be disclosed found a number of key issues common to many sources. These issues are summarised in Figure 2.1.

FIGURE 2.1: INFORMATION TO BE DISCLOSED WITHIN THE ANNUAL REPORT

- An outline of company activities and impacts on the environment.
- A clear and comprehensive environmental policy statement.
- Details of how the policy will be implemented.
- Measurable and achievable targets and objectives for each performance area.
- Quantitative and qualitative data provided on progress made against these targets.
- Details of any environmental audits carried out and their findings.
- Details of who is responsible for environmental issues throughout the company.
- Potential costs and investments related to environmental issues.
- Demonstration of high-level commitment to environmental issues within the company.

Source: KPMG (1993).

The summary of findings by KPMG (1993) suggested that potential users of the AR desire information on the full gambit on environmental interactions. It suggests as an initial requirement, companies should disclose information on the actual interactions with the environment, and second, companies should disclose information on the procedures developed to manage this interaction. Management procedures include the development and implementation of policies, the setting of targets and progress against these targets, auditing or monitoring procedures and the delegation of responsibility for environmental management. The survey further reported that users of the AR desire information on the financial impact of environmental issues, and an acknowledged commitment to environmental management by the entity.

The United Nations Centre for Transnational Corporations Intergovernment Working Group of Experts on International Standards of Accounting and Reporting (UN CTC ISAR) provided a list of recommendations concerning the disclosure of environmental

information within the general-purpose financial reports. These recommendations are summarised in Figure 2.2.

FIGURE 2.2: INTERNATIONAL STANDARDS ON ACCOUNTING AND REPORTING RECOMMENDATIONS FOR ENVIRONMENTAL DISCLOSURES

Companies should disclose information on:

- environmental issues pertinent to the enterprise and industry;
- environmental policy adopted;
- improvements made since adopting the policy;
- enterprise environmental emissions targets and performance against these;
- response to government legislation;
- material environmental protection measures on capital investment and earnings;
- material costs charged to current operations; and
- material amounts capitalized in the period.

Source: UN CTC ISAR (1991)

The initial focus by UN CTC ISAR was on the identification of environmental issues pertinent to the organisation, with a further emphasis on a management response on the environment through policy development and implementation. This included the setting of targets and subsequent performance against these targets, as well as an emphasis on accounting for the material financial aspects of environmental performance. The UN CTC ISAR report also recommended that entities should disclose more detailed information in the financial statements on:

- Accounting policies for recording liabilities and provisions, for setting up a catastrophic reserve, and for contingent liabilities.
- Figures for liabilities, provisions, contingent liabilities and reserves.
- Tax effects.
- Any government grants received.

The UN CTC ISAR report elaborated that the AR might also include information on:

- Environmental audits.
- Compliance with regulations.
- Findings from independent sources (eg. EPA).
- Environmental policy.
- Financial data on environmental issues (eg. expenditures).
- Non-financial data on environmental issues (emission targets, rehabilitation progress).

The focus of the information required is on the specifics of environmental management, such as monitoring processes, including compliance of operations, and a desired need for additional financial information with respect to environmental management. This highlights a possible demand for information to include not only the procedures of environmental management, but also the measurement of the observable outcomes from environmental management procedures.

A report prepared by the New South Wales Environmental Protection Authority [NSW EPA (1997)] titled “Corporate Environmental Reporting: Why and How” set out criteria for desirable components of corporate environmental reporting. The major categories identified for ER are summarised in Figure 2.3.

**FIGURE 2.3: NEW SOUTH WALES ENVIRONMENTAL PROTECTION
AUTHORITY REPORT COMPONENTS**

- Context
 - Organisation's profile
 - The larger environment – relevant environmental issues
- Management policies and systems
 - Top management commitment
 - Latest environmental policy
 - Systems and programs
 - Communication with stakeholders
 - Awards
 - Health and safety
- Performance in managing energy and resource use
 - Water consumption
 - Land use and biodiversity
 - Other resources used
 - Sources of resources used by suppliers
 - Energy consumption
 - Energy used in transport
 - Use of office supplies
- Performance in managing emissions and waste
 - Emissions to air
 - Transport emissions
 - Greenhouse gas production
 - Emissions to water
 - Waste generation and disposal
 - Hazardous waste generation and disposal
 - Noise and odour production
 - Legal compliance
- Product information
 - Product stewardship
 - Life cycle assessment
 - Packaging
 - Product design
- Financial information
 - Financial statements
 - Environmental expenditure
 - Environmental fees
 - Environmental liabilities
 - Benefits and opportunities

Adapted from: NSW EPA (1997).

The direction of the NSW EPA's report is initially upon providing an overview of the entity and its impact upon the environment. This overview is then to be extended upon by disclosing information on the operational activities of the entity that impact upon the environment. Finally, supporting financial information should also be provided.

In 1989 fifteen major US environmental groups together with an array of socially responsible investors and public pension funds established the Coalition for Environmentally Responsible Economies (CERES). The group issued reporting guidelines to assist organisations in improving environmental reporting practices. The components of their reporting guidelines are summarised in Figure 2.4.^{24,25}

²⁴ CERES have also convened the Global Reporting Initiative (GRI) which has as its mission the promotion of international harmonisation in the reporting of relevant and credible corporate environmental, social and economic performance information to enhance responsible decision-making [CERES (1999)].

²⁵ Reporting initiatives have also been produced by the Public Environmental Reporting Initiative (PERI) [PERI (1994)].

FIGURE 2.4: 1998 CERES REPORT STANDARD FORM

1.	Company Profile
2.	Environmental Policies, Organization and Management
	Audits
3.	Workplace Health and Safety
4.	Community Participation and Accountability
	Emergency Response
5.	Product Stewardship
6.	Supplier Relationships
7.	Use and Conservation of Natural Resources
8.	Emissions and Waste
	Greenhouse Gases
	Key Air Pollutants
	Ozone-depleting chemicals
	Chemical Release Information
	Hazardous Waste
	Non-hazardous Waste
	Accidental Releases
	Overall Emissions and Waste
9.	Compliance
10.	Priorities and Challenges

Source: CERES (1999).

The general direction of these reviews of desired, or recommended, environmental information is that disclosure should be representative of the complete cycle of environmental performance and management. Supportive of this Bullough and Johnston (1995) in a review of reporting literature suggested that the AR should act as a non-technical summary, statement or report of the entity's commitment to the environment. It was suggested [Bullough and Johnston (1995, pp. 36-7)] that such disclosure should include information on:

- The commitment of resources, or the intention to, in terms of identifying, recording and tackling environmental issues.
- Identifying core functions and taking account of specific environmental issues.

- The company's environmental policy.
- The level of targeting of key performance indicators.
- Environmental auditing.
- Financial resources given over to data gathering and reporting.
- The level of middle management support for the reporting procedure.
- Explaining the company's environmental management system and, in particular, identification of key people who are responsible for implementing the environmental management programme; how environmental awareness of employees is being increased, including training; and how the company is helping to frame and inform regulation and legislation in the interests of all stakeholders.

A consistent issue identified as significant is detailed information of the corporate response to environmental issues, or more precisely the functions and application of an Environmental Management System (EMS). The desired components of an EMS have been the subject of many reports and standards. One such standard is BS 7750, the British Standards Institution's Specification for Environmental Management Systems.²⁶ The major components of the standard for the development of environmental management systems are:

- Establish an environmental policy, incorporate targets and objectives.
- Allocate resources and personnel to achieve management control.
- Establish procedures and responsibilities to implement the standard.
- Evaluate and assess environmental effects.
- Establish an environmental management programme.
- Maintain a system of environmental management records, and an in-house system of verification.
- Conduct environmental management audits and reviews.
- Develop mechanisms for corrective action for non-compliance.

The Commonwealth EPA (1995h) has identified that an EMS for the mining industry should include:

²⁶ More recent is the development of the ISO 14000 series on environmental management. Companies may seek accreditation to the ISO 14000 series by complying with the relevant standards and guidelines. A summary of the ISO 14000 Standards is provided in Appendix 1.

- Organisational commitment.
- Corporate environmental policy.
- Environmental impact assessment (EIA).
- Community consultation and involvement.
- Objectives and targets (corporate performance indicators).
- Environmental management program.
- Documentation and records.
- Operational and emergency procedures.
- Responsibility and reporting structure.
- Training, awareness and competence.
- Environmental impact, regulatory and legal compliance and environmental performance review audits.
- Emission and performance monitoring and measurement.

From this review of the literature a broad framework of desired information is developed in the following section.

2.5.2 A FRAMEWORK FOR AN ENVIRONMENTAL DISCLOSURE INDEX

The above review suggests that external users desire information from the entity on environmental performance at different levels. Two levels emphasised in this study are:

1. Corporate management level (management response or involvement).
2. Operations level (the relevant environmental management activities).

At the corporate level, management focus is upon the development of objectives and policies, and responding to those issues that influence the direction of corporate activities, such as external regulations or standards. The focus is also on issues that impact upon firm policy, or those issues that demand a response or acknowledgment from the senior management of the organisation. As suggested by the NSW EPA (1997), there should be information disclosed on an overview of the organisation's

impact upon the environment, and on management policies and systems implemented to manage environmental issues. Arguably at the corporate level environmental management has two core focuses:

1. An external focus - documentation of corporate management dealings with external stakeholders, such as government and other industry participants, and an acknowledgment of the entity's position with respect to environment.
2. An internal focus - concerned with corporate management commitment to environmental management, policy direction and the development of an environmental management framework.

These categories result from actions undertaken by the entity that may not directly impact upon the environment. However, such actions may result in improvement of environmental performance and management by providing an understanding of the entity and the natural environment.

A second level of environmental management is at the operational level, focusing upon the identifiable interactions between the entity and the environment [NSW EPA (1997)]. Such interaction in this study is further defined into five specific focus area categories:

- The identification and monitoring of firm specific environmental interactions.
- Processes of development within an EMS to improve management effectiveness.
- The application of environment-related programs.
- Environmental auditing.
- Accounting practices that identify, measure and report the financial impact of the interaction with environmental issues.

From the review two levels of management activity and seven focus areas are identified. These are stated in Table 2.6.

TABLE 2.6: LEVELS OF CORPORATE RESPONSE AND FOCUS AREAS

Level of Activity	Focus Areas
1. Corporate level	1. External focus
	2. Internal focus
2. Operational level	3. Identification and Monitoring
	4. Development
	5. Programs
	6. Auditing
	7. Accounting Practices

These two levels of activity, corporate and operational, and the subsequent sub-categories provide the framework from which the EDI is developed in Chapter 5.

2.6 SUMMARY

This chapter reviewed the development of accounting for the environment. This involved first a discussion of the role that accounting can play in supporting environmental management, focusing upon ER in the AR as a means of disseminating information on environmental management and performance.

Second, a review of reporting regulations that may require disclosure on environmental issues was undertaken. The review reported that although there are no specific reporting standards on environmental issues, a number of existing accounting standards and regulations may result in ER by Australian companies. These included Schedule 5 of Corporations Law (which was replaced in 1997 by AASB 1034 “Information to be Disclosed on Financial Reports”) and AASB 1022 “Accounting for the Extractive Industries” which requires firms to account for restoration obligations. The first explicit directive from standard setters to report on an environmental issues was UIG Abstract 4 “Disclosure of Accounting Policies for Restoration Obligations”, which became effective 6 October 1995 and therefore will not influence the results of this study. A review of prior research found, in spite of limited ER requirements, that many companies in Australia and internationally are voluntarily disclosing

environmental information within the AR. **The results indicate that the level of ER has increased over time, with observations of variation in the quantity and quality of such disclosure between reporting entities.**

A review of prior research provides evidence that **the AR is an important source of environmental information for those seeking to evaluate an organisation's environmental performance.** Research has also provided limited evidence of an association between the disclosure of social and environmental information and financial performance, and that stock markets react positively to socially responsible actions undertaken by companies.

Finally, this chapter has reviewed the literature on the desired elements of ER. Based upon this review, a general framework is provided of the type of environment-related information that is recommended to meet the environmental information needs of AR users. **This general framework forms the basis of the EDI developed in Chapter 5.**

CHAPTER 3

THE ENVIRONMENT AND CORPORATE MANAGEMENT RESPONSIVENESS

Organizations compete not just for resources and customers, but for political power and institutional legitimacy, for social as well as economic fitness.

DiMaggio and Powell (1983, p. 150)

3.1 INTRODUCTION

Chapter 2 concluded with a general framework for environmental reporting (ER) within the annual report (AR). This chapter adopts legitimacy theory as a basis for a framework to provide an explanation as to what influences the level of ER within the AR.²⁷

Focus upon corporate management accountability for environmental performance has increased due to an evolving regulatory framework and increased scrutiny by external parties. Consequently there is an increasing recognition of the necessity of congruence between corporate actions and community values with respect to environmental management and performance. In this chapter it is argued that such changes may result in management adopting a process of legitimisation that may involve communication, either by portraying an image of concern and of the competence of current programs, or by seeking to change perceptions of what is appropriate. Thus it is argued in this thesis that ER within the AR is representative of the process of legitimisation, and that such responsiveness by management is a function of first, disturbances with respect to community values, and second, firm specific factors that modify management's level of responsiveness.

²⁷ Alternate theoretical frameworks, such as political economy or signaling theory, were considered but not adopted. Discussion of this is undertaken in Section 9.5.1.

This chapter describes a framework that is explanatory as to the motivation for corporate management to seek to achieve legitimacy for environmental management and performance as observed by ER within the AR. Hence, the purpose of this chapter is to:

1. Explore corporate responsiveness as a process of legitimisation within the context of the social contract (Sections 3.2, 3.3 and 3.4).
2. Identify specific disturbances or firm characteristics that may alter the legitimisation process (Section 3.5).

This chapter is set out as follows: Section 3.2 describes corporate management responsibility within the context of a social contract, which defines how an organisation's actions are expected to conform to social norms. Section 3.3 examines the changing focus of corporate management accountability with respect to expectations upon environmental management and performance. Section 3.4 explores the argument that due to changes in corporate management accountability, there is a greater need by management to focus upon organisational legitimacy, which may be achieved through disclosure of environmental information within the AR. Section 3.5 discusses disturbances that may motivate corporate management to reassess the level of organisational legitimisation resulting in changing levels of ER within the AR. The legitimisation process is observed as a function of both inter period disturbances that elicit a system-wide response, thereby motivating different levels of responsiveness between periods, and intra period factors that modify individual management's responsiveness.

3.2 CORPORATE MANAGEMENT AND THE SOCIAL CONTRACT

The social contract seeks to provide an understanding of the expectations placed upon individuals and organisations (including companies) with respect to their actions within the broader community. That is, the social contract seeks to explain the boundaries of acceptable interaction between participants within society.

The social contract in its earliest theoretical development sought to explain the rightful powers and obligations of governments by conceptualising a hypothetical contract drawn up among individuals (or stakeholders) within society [Donaldson (1982)]. The initial concept of the social contract explored the notions of equality, the sharing of responsibility and powers, of the determination of the practices that were acceptable in achieving the needs of society, and that which was unacceptable [Rousseau (1947)]. Rawls (1971, p. 11) explained this notion of a social contract in the following way:

...we are to imagine that those who engage in social cooperation choose together, in one joint act, the principles that are to assign basic rights and duties and to determine the division of social benefits. Men are to decide in advance how they are to regulate their claims against one another and what is to be the foundation charter of their society. Just as each person must decide by rational reflection what constitutes his good, that is, the system of ends that it is rational for him to pursue, so a group of persons must decide once and for all what is to count among them as just and unjust. The choice which rational men would make in this hypothetical situation of equal liberty, assuming for the present that this choice problem has a solution, determines the principles of justice.

The concept of the social contract was therefore initially based upon the notion of 'justice' for individuals within society [Donaldson (1982)]. However, the social contract also recognises that there will be costs to the individual from such interactions, but the benefits provided must exceed the associated costs (both financial and social). Because of the implicit nature of the social contract there are those who may disregard the boundaries of socially desirable behaviour. To counter those individuals who do not remain within these boundaries, society as a whole has allowed the formation of governments with the power to regulate and restrict the individual. Through regulative intervention governments can penalise individuals, or the structure within which the individual functions, that operate outside of these boundaries. These penalties may be either financial, and/or the restriction of the individual's activities, or in terms of the personal liberty of the individual.

The social contract has been used to explain the behaviour of firms. As stated by Donaldson (1982, p. 57), productive organisations are:

...subject to moral evaluations which transcend the boundaries of the political systems that contain them. The underlying function of all such organizations from the standpoint of society is to enhance social welfare through satisfying consumer and worker interests, while at the same time remaining within the bounds of justice. When they fail to live up to these expectations they are deserving of moral criticism.

In other words, corporate management, via their social contract with other stakeholders within the community, seek to perform socially desirable actions in return for acceptance of their entity's objectives.²⁸ This concept was described by Shocker and Sethi (1974, p. 67):

Any social institution - and business is no exception - operates in society via a social contract, expressed or implied, whereby its survival and growth are based on:

- a) the delivery of some socially desirable ends to society in general, and
- b) the distribution of economic, social or political benefits to groups from which it derives its power.

In a dynamic society, neither the sources of institutional power nor the needs for its services are permanent. Therefore, an institution must constantly meet the twin tests of legitimacy and relevance by demonstrating that society requires its services and that the groups benefiting from its rewards have society's approval.

In other words corporate management are accountable for both the entity's economic and social performance. Such accountability is considered important as a number of stakeholders within the community may have socially orientated objectives that they desire the firm to achieve.²⁹

²⁸ Corporate management are also participating members of society. As such, corporate management may be influential in the setting of the social agenda, and therefore are influential in the setting of the implicit (and explicit) terms of the social contract. This influence is magnified by their access to the resources of the organisation that they manage, and can exist on a number of levels. First, they have the ability to directly lobby the rule making bodies (the government), and second, by directly lobbying the community and creating the 'aura' of the socially responsible corporate citizen (a process of legitimisation of its social status with charitable donations, a perceived commitment to the community's welfare, etc.).

²⁹ It is argued that social lobby organisations have the ability to impact upon corporate operations. This belief is supported by the move by a number of companies to associate themselves with social lobby groups, and in some cases bring environmentalists into the internal management of the company [White and Mazur (1994, p. 231)].

This view of the social contract may therefore include performance on environmental issues, if such issues are considered of importance to society. Hence, corporate management's responsiveness on environmental issues is bound by the implicit boundaries of the social contract, that is, management actions are guided by social expectations of their environmental performance. However, failure to remain within the 'implicit' boundaries may result in the introduction of 'explicit' regulatory requirements with respect to environmental management and performance.

3.3 EXPECTATIONS OF ENVIRONMENTAL PERFORMANCE AND CORPORATE MANAGEMENT ACCOUNTABILITY

Over recent decades society's perceptions and expectations of business in the area of corporate social responsibility have changed.³⁰ This has resulted in the more critical reviewers of the corporate culture, such as Tinker and Neimark (1987, p. 84), to argue "the public, in general, became increasingly aware of the adverse consequences of corporate growth". Tinker and Neimark (1987) further noted that advocacy groups and research organisations concentrating on corporate social performance gained prominence while public confidence in business declined.^{31,32} This was seen as a failure by business to satisfactorily adapt to changing public expectations with respect to their role within society.³³

³⁰ Heard and Bolce (1981, p. 248) found that between 1965 and 1980 there were more than 100 pieces of legislation dealing with the social impact of business enacted in the US.

³¹ This decline was documented by Lipset and Schneider (1983).

³² It is changes in public perceptions, or changes in the implicit social contract, that can result in an alteration in the accountability requirements of management. It must be noted that a decline in confidence is not restricted to the issue of environmental impact. Society's interest in many social issues, and businesses perceived reluctance to adapt, has resulted in business taking an adversarial approach to these issues. However, studies by Epstein (1996) and Porter and van der Linde (1995) have identified many examples of where corporate management has discovered that good environmental management can equate to good financial management.

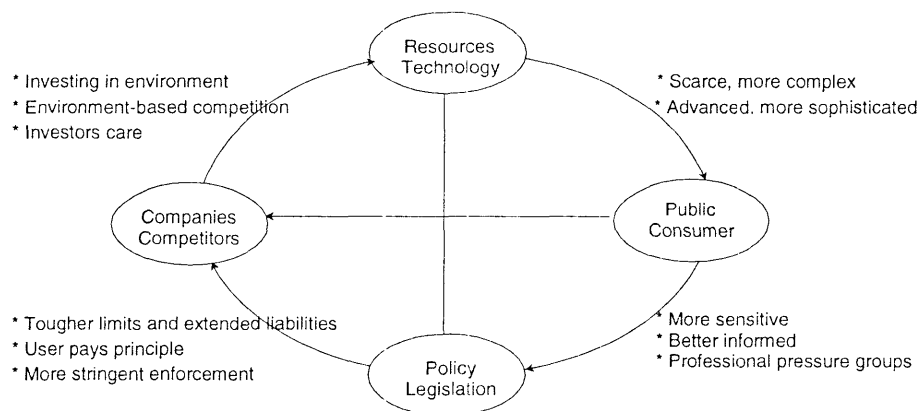
³³ Business has continued to grow, however, this growth has at times been seen as causing an unacceptable cost in terms of impact upon the natural environment. Hence, there have been increased demands for the principles of sustainable development to be adopted by the business sector [Schmidheiny (1992)].

It has been argued that within the current social environment, the natural environment as an issue has the prominence to force change in corporate management behaviour, including the reporting practices of the company [Gray, Bebbington and Walters (1993)].³⁴ This ability to force change is not driven by the physical environment itself, but as an issue deemed important by stakeholders within the community that has resulted in an increased focus upon the interaction between business and the environment. In other words, changes in community perceptions have resulted in those entities that interact with the physical environment to become more accountable for their actions. Beaucamp and Girgensohn (1992) argue there are four interactive forces that are driving this changing focus. These interactive forces are:

- The community, including customers and the public generally.
- Government policy and legislation.
- Companies and competition.
- Developments in resources and technology.

The interaction of these forces is illustrated in Figure 3.1.

FIGURE 3.1: THE INTERACTIVE FORCES OF THE ENVIRONMENT



Source: Beaucamp and Girgensohn (1992)

³⁴ This issue has also explored in Bebbington (1993), Cairncross (1991), CICA (1992), Davis (1991), Elkington and Burke (1987), Elkington, Knight and Hailes (1991), Gray (1990), ICAEW (1992), Kestigian (1991), Nelissen and Scheepers (1992), Rubenstein (1992), and, Schmidheiny (1992).

Beaucamp and Girgensohn (1992) suggest that there is continuous pressure upon companies by a combination of external stakeholders (the public and consumers, and government bodies). They argue that the public and consumers are better informed about environmental issues and are more influential, having the ability to pressure governments to restrict environmental impact through tougher policies and the introduction of legislation. Corporate management has responded to increased restrictions and public scrutiny by diverting resources and technology to environmental management, thereby seeking to minimise the impact upon the environment. In other words, Beaucamp and Girgensohn (1992) argue that a change in community knowledge and responsiveness on environmental issues (reinforced by increased government intervention) has directly resulted in changes in corporate management responsiveness on environmental issues.

The impact upon business operations from government intervention with respect to environmental management can be substantial, particularly if significant costs result from enforced environmental control or damage rectification.³⁵ However, future financial implications are often unknown due to the inability of many organisations to place dollar values on their current interaction with the environment.³⁶ Furthermore, with the increased emphasis on the 'polluter pays' principle, which underlies much of the current and proposed legislation, environmental costs to business may be set to escalate [Krol (1994)].

³⁵ In the US the *Clean Air Act* was expected to cost Petroleum refiners \$US37 billion, over \$US6 billion more than the book value of the entire industry [Walley and Whitehead (1994)]. Further, the US Environmental Protection Agency identified some 27,000 hazardous waste sites, with an estimate average cleanup cost of \$US25 million each, or a total possible cost of \$US674 billion [Rubenstein (1991, p. 36)].

³⁶ The cost in dollars of environmental disasters can be fully measured with hindsight. The *Exxon Valdez* oil spill resulted in a cleanup cost of approximately \$US1.25 billion, of which only one-third was covered by insurance. This resulted in a net income for the quarter ended June 30, 1989 of \$US160 million, or 13c/share, compared to Exxon's previous year's second quarter net income of \$US1.2 billion, or 90c/share [Rubenstein (1990)].

Companies are increasingly affected by regulatory intervention.³⁷ The penalties imposed upon companies for breaches of regulation have historically been directed at the company in the form of cleanup costs and fines. Recently there has been a trend identifying the corporate manager as having a 'duty of care' towards the environment, and therefore personally liable for their company's breaches of regulations [Duplessis and Trenholm (1992), Frost and Wilmshurst (1996a), Smith (1997)]. This has reinforced management's accountability for environmental performance by transferring responsibility to the corporate manager as an individual.³⁸ As stated by Goodfellow and Willis (1991, p. 46):

...boards and management are now being held accountable for the environmental impact of corporate activities - not just the effect those activities have on the "global commons" (air and water), but also the extent to which they deplete natural resources, both renewable and nonrenewable.

Competition is also becoming an important motivating factor, forcing corporate management to consider a wider range of issues within their marketing strategies. For example, many marketing strategies are now being built around 'green' products, thereby gaining consumer acceptability.³⁹ Hence, competition for community support may encourage many businesses to embrace 'best-practice' environmental management principles.⁴⁰ Possible changes in focus of business practices in regard to environmental management practices, as identified by the Australian Manufacturing Council (AMC) (1991), are reported in Table 3.1.

³⁷ Frost and Wilmshurst (1996a) noted that a number of corporate managers felt unduly targeted by government regulation that they deemed inappropriate. However, other corporate managers saw the changing environmental agenda as an opportunity for their company.

³⁸ The issue of accountability has been explored in studies by Churchill and Toan (1978), Fiedler and Lehman (1995), Gallhofer and Haslam (1995), Goodfellow and Willis (1991), Gray (1994), Gray, Owen and Maunders (1986), (1988), (1991), Hines (1991), Parker (1996), Rubenstein (1990), Tozer and Mathews (1994), and Vinten (1991).

³⁹ From the UK, Gray (1990) noted the desire for companies to require suppliers to provide environmental audits on their products.

⁴⁰ Such practices may be based on accepted environmental management standards such as the ISO 14000 series.

TABLE 3.1: BEST PRACTICE ENVIRONMENTAL MANAGEMENT

	Old	New
Management Strategy	• End of pipe focus • Meet required standard • None or few environmental indicators	• Pollution prevention • Continuous improvement - audits, financial incentives • Sophisticated set of environmental indicators
Management Style	• Low level of responsibility within company • Command and control internal processes	• High level of responsibility within company - CEO, CFO • Participative control and solution making
Organisational Structure	• Weak or no links between Organisational Health and Safety, Environmental Controls and Production Management	• Strong, integrated relationship between Organisational Health and Safety, Environmental Controls and Production Management
Community Access	• Closed door	• Open door, accept right to know

Source: Australian Manufacturing Council (1991).

According to the AMC (1991), best practice environmental management may result in change within an organisation at a number of levels. For example, change can occur by altering operating procedures to meet 'best practice' standards, thereby matching actual performance with community expectations. However, a secondary means of responding to changes in community expectations is to communicate with influential stakeholders, either to inform on the acceptability of current performance or to change expectations of performance, thereby legitimising current activities so as to avoid further scrutiny of corporate performance.

3.4 CORPORATE MANAGEMENT RESPONSIVENESS – ACHIEVING CORPORATE LEGITIMACY

Society grants legitimacy and power to business. In the long run, those who do not use power in a manner which society considers responsible will tend to lose it.

Davis and Blomstrom (1975, p. 50)

3.4.1 ORGANISATIONAL LEGITIMACY

From social contract theory, it is argued that corporate management seeks to comply with the expectations of society, thereby gaining organisational legitimacy. Within this context, Lindblom (1994) [as discussed by Gray, Kouhy and Lavers (1995a)] describes organisational legitimacy as:

...a condition or status which exists when an entity's value system is congruent with the value system of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity's legitimacy (p. 2).

Lindblom (1983, pp. 220-221) also suggests:

1. Legitimacy is not synonymous with economic success or legality.
2. Legitimacy is determined to exist when the organization goals, output, and methods of operation are in conformance with societal norms and values.
3. Legitimacy challenges are related to the size of the organization and to the amount of social and political support it receives with the more visible being most likely to be challenged.
4. Legitimacy challenges may involve legal, political or social sanctions.

The social contract is not limited to economic success, but also includes social interactions. In other words, companies need to legitimise their performance not only in terms of economic indicators, but also with respect to their social performance. As Patten (1992, p. 471) noted:

...until relatively recently, legitimacy was considered only in terms of economic performance. As long as a firm was successful (profitable), it was rewarded with legitimization.

Failure to meet community expectations with respect to social performance can result in penalties or sanctions being incurred that restrict the activities of the firm. These sanctions in their most obvious form are the formalisation through legislation and regulations of implicit community expectations.^{41,42} Sanctions can also occur in a more *ad hoc* form, for example, consumer boycotts, employee dissatisfaction, or restrictions on access to finance.

Organisational legitimisation is therefore a means of describing the corporate response to changes in community expectations. In other words, it seeks to explain management's response so as to avoid further explicit restrictions (such as government regulations), or implicit restrictions (such as reputation effects), on their operations. However, legitimisation through changes in operational processes may not necessarily be the optimal outcome for the firm, or an economically viable alternative. Hence, **management may seek organisational legitimacy through alternate means such as the justification of current actions through communication of a commitment to improved environmental management and performance, or communicate so as to change stakeholders' current expectations that may be seen by management as unreasonable.**

⁴¹ Once social norms have become formalised, corporate management accountability to society is enforceable by government institutions.

⁴² The legitimisation process also applies to corporate reporting practice where perceived failures to provide sufficient information will result in calls for greater disclosure and the introduction of reporting standards.

3.4.2 LEGITIMISATION THROUGH COMMUNICATION – THE ROLE OF THE ANNUAL REPORT

Corporate legitimisation involves management of the flow of information from the firm so as to meet the information demands of the community, or specific stakeholders such as the environmental lobby. As argued by White and Mazur (1994, p. 9) entities not only “have to get themselves in environmental shape, they also have to be seen to do so”. In other words, corporate legitimisation involves not only matching performance with expectations, but also the means by which corporate management can inform external parties as to their responsiveness on environmental management and performance. This may in turn influence expectations of performance requirements.

Corporate legitimacy is therefore not solely a performance-orientated function, but also a function of corporate image. Within this context Buhr (1998) observed that a company has choices with respect to corporate legitimacy, first in terms of performance along a spectrum of possible behaviours, and, second in terms of the level of environmental disclosure. These two choices are not necessarily related, as reflected by a number of studies that have found discrepancies between the level of environmental disclosure and selected indicators of environmental performance [Ingram and Frazier (1980), Rockness (1985), Rockness, Schlachter and Rockness (1986), Wiseman (1982)]. Laughlin (1991) noted that while the observation of environmental information may not accurately reflect the level of actual change in performance within the organisation, it does however, reflect the importance management may perceive the issue is to external parties. Whether this perceived importance then results in changes to management commitment may not be accurately observed.⁴³ It is therefore argued that ER is reflective of management’s legitimisation process, and not an indication of actual performance. As stated by Dowling and Pfeffer (1975, p. 127), “the organization can attempt, through communication, to alter

⁴³ It is, however, speculated that those organisations that adopt changes in internal processes will adopt a more in depth external reporting process, which will be reflected in the ‘quality’ of the information finally disclosed [Elkington (1993)].

the definition of social legitimacy so that it conforms to the organization's present practices, output and values".

The AR, as a significant tool for corporate communication, may be used as a means by which corporate management signals their current level of performance to the broader community. The reporting process can therefore play an important role in achieving corporate legitimacy, for it is an information distribution tool controlled by management. Lindblom (1994) [as discussed by Gray, Kouhy and Lavers (1995a)] describes four strategies of legitimisation that an organisation can adopt. First, the organisation may seek to educate and inform its "relevant publics" about actual changes in the organisation's performance and activities. Second, the organisation may seek to change the perceptions of the relevant publics without having to change its actual behaviour. Third, the organisation may seek to manipulate perception by deflecting attention from the issue of concern to other related issues through an appeal to, for example, emotive symbols. Fourth, the organisation may seek to change external expectations of its performance. Each of these strategies can utilise the reporting process as a means of reducing the "legitimacy gap" between the organisation's value system and the expectations of community in which it operates.

With respect to AR content, prior research provides limited evidence that changes in observed levels of ER are either a function of:

- Changing community attitudes [Buhr (1998), Deegan and Gordon (1996), Guthrie and Parker (1989), Hogner (1982)].
- Significant events that impact upon the corporate entity [Deegan and Rankin (1996)].
- The industry in which the firm operates [Patten (1992)].

Hence, it can be hypothesised that there is a possible relationship between ER within the AR and changes in community perceptions of environmental issues.

3.5 CORPORATE RESPONSIVENESS - INFLUENTIAL DISTURBANCES ON ENVIRONMENTAL REPORTING PRACTICES

The general causal factors that impact upon corporate management may be either implicit or explicit. From the minimal disclosure perspective, application of accounting standards and other rules on disclosure are explicit (see Section 2.3.1). Alternatively, full disclosure would require complete transparency with respect to interactions with the environment. Corporate management however may regard full disclosure as being too 'costly' for the organisation.⁴⁴ Conversely, compliance with the minimum requirements may result in other costs being incurred with respect to the legitimacy of operations and performance. For example, a perceived lack of transparency may result in pressure for the minimum level of expectations upon environmental management and performance to be adjusted [Guthrie and Parker (1990)]. Hence, the level at which corporate management communicate environmental information may be interpreted as a function of the minimum reporting requirements (mandatory disclosure), and management's need to legitimise their actions and performance to the external social environment (voluntary disclosure). As described by Guthrie and Parker (1990, p. 165), companies undertake voluntary social disclosures in order to:

...demonstrate a constructive response to social pressure and avoid further regulation of their disclosures. In this way they may seek to pacify sociological demands made on business while attempting to win or maintain support from particular targeted constituencies. Such a disclosure strategy may include emphasising the corporation's positive contributions to social welfare and highlighting its attempts to minimise its harmful effects on various elements of society.

ER can therefore be used as a means of demonstrating corporate management responsiveness on environmental issues.⁴⁵ From the social contract perspective corporate management are justifying their existence, and therefore 'defending' the

⁴⁴ Costly in terms of expenditure in actual collation and distribution of all relevant data, and second in terms of competitive advantage.

⁴⁵ Prior research suggests that many Australian companies have voluntarily disclosed environmental information [Deegan and Gordon (1996), Guthrie and Parker (1990), Pang (1982), Trotman (1978)].

appropriateness of the minimum boundaries of the explicit components of the social contract.

Organisational change as represented by corporate management responsiveness is observed to be influenced by a number of disturbances [Gray, Kouhy and Lavers (1995a), Laughlin (1991)], which are associated with community values and political intervention [Beaucamp and Girgensohn (1992)]. The framework of the social contract, however, only provides a range for corporate management responsiveness, which consequently does not explain the individual firm's level of responsiveness. It is hypothesised in this study that management is motivated to respond in two ways. First, management is influenced by changing levels of societal responsiveness on environmental issues between periods, or inter period disturbances on corporate management that may elicit a system-wide response.⁴⁶ Second, differential levels of responsiveness by individual firms within the same period are influenced by firm specific factors. A framework explaining this interaction is developed in the following section.

3.5.1 A FRAMEWORK OF CORPORATE MANAGEMENT RESPONSIVENESS

It is argued that corporate management responsiveness is motivated by societal disturbances that influence their decision process. These disturbances are referred to in this study as changes in the level of societal responsiveness on environmental issues (SREI), a function of the community's concerns and awareness of environmental issues.⁴⁷ SREI is interpreted as being an inter period change in the social contract,

⁴⁶ A system-wide response is where all firms within a homogeneous social environment react to changes in community values so as to maintain the legitimacy of the system or industry.

⁴⁷ SREI examines the changing focus on environmental issues by the community. As suggested by Beaucamp and Girgensohn (1992), the community is better informed on environmental issues, and subsequently have a greater ability to influence corporate management both directly and indirectly. Beaucamp and Girgensohn (1992) also suggested that development in resources and technology, and competition may also motivate change in management responsiveness on environmental issues. However, as this study examines a single industry, changes in technology should be available to all entities examined. The impact of competition is not examined.

hence there will be changed expectations on environmental performance for all organisations operating within that social environment.

The individual corporate manager's responsiveness to changes in SREI is modified by firm specific factors that result in differing demands for legitimisation. These are described as intra period factors, which are identified within this study as: (i) stakeholder related (who are reliant upon the success of the entity), and (ii) the firm's level of public exposure (which may increase the focus upon, or scrutiny of, corporate performance).

Prior research has examined the relationship of disturbances and individual factors, this study extends upon this by viewing these disturbances and modifying factors as part of an interactive framework. This framework is illustrated in Figure 3.2.

FIGURE 3.2: FACTORS INFLUENCING CORPORATE LEGITIMISATION OF ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

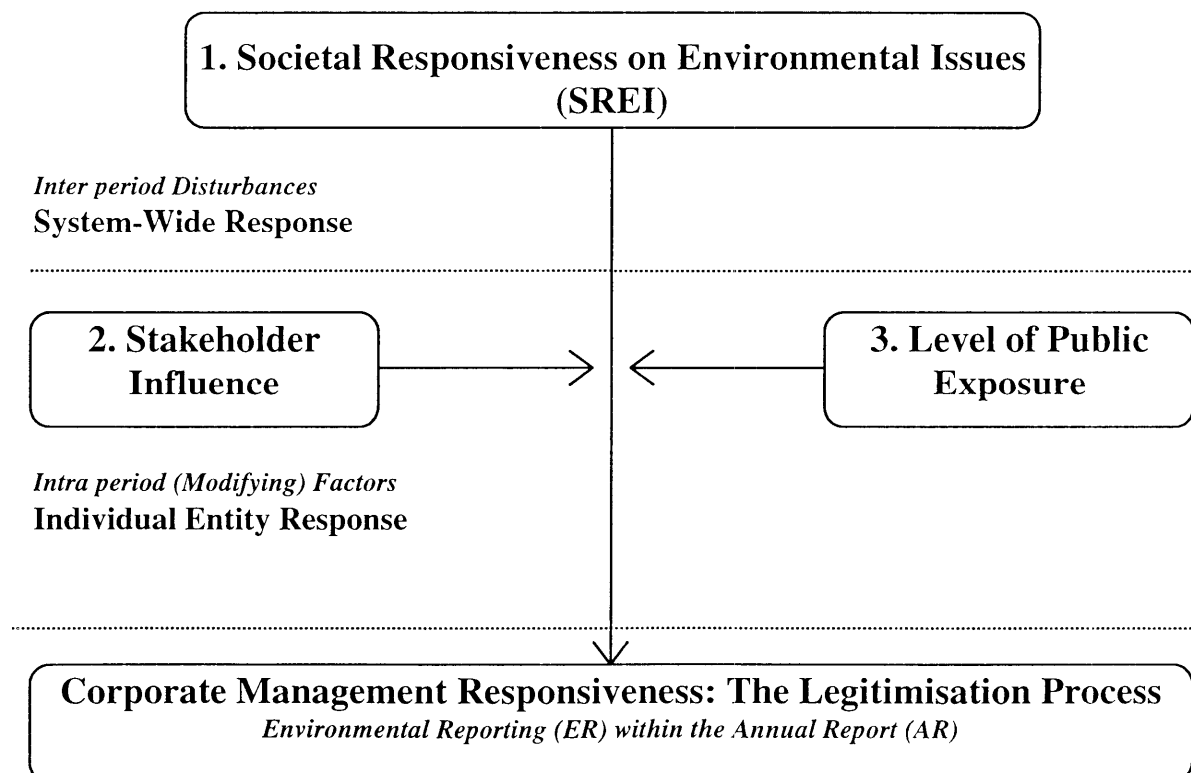


Figure 3.2 illustrates that corporate management responsiveness is influenced over time by societal responsiveness on environmental issues (SREI) of the community in which they operate (inter period disturbances). In other words, collectively management react to changes in the implicit social contract (changes in community expectations) so as to maintain system-wide (or industry) legitimacy [Neu, Warsame and Pedwell (1998)].

Such a relationship, however, does not explain why individual entities within the same industry, thereby having relatively similar social contracts, respond differently. It is argued that firm specific responsiveness is modified by factors that define the firm or influence the level of the firm's exposure to the social environment. These modifying factors are possibly explanatory for intra period differences in the level of ER observed in prior research [Deegan and Gordon (1996), Deegan and Rankin (1996), Kent, Kwong and Marshall (1997)]. Hence, changes in societal responsiveness are associated with *inter period* variations in management responsiveness, as observed by ER (for both the system and the individual firm). Additionally, entity specific factors, such as the influence of stakeholders and the firm's level of public exposure, are arguably associated with *intra period* differences in the level of ER. A number of specific disturbances and modifying factors identified within this framework, and their affect on ER practices, are discussed in Sections 3.5.2 and 3.5.3.

3.5.2 SOCIETAL RESPONSIVENESS ON ENVIRONMENTAL ISSUES

The corporate entity operates within a continuously changing and dynamic social environment, resulting in changing expectations upon performance. It is argued that in maintaining organisational legitimacy with respect to environmental (and social) performance, corporate management has used the AR. A study by Hogner (1982) of 80 years of US Steel's social disclosure practices found that such disclosures have existed on a practical basis across the study's time frame. From the results of the study Hogner (1982, p. 245) argued "...corporate social accounting is viewed as an indicator

of the changing institutional structure of business in response to changing societal demands". This suggests that social reporting practices are a reflection of management's responsiveness to changing demands from the society in which it operates. Hogner (1982, pp. 248-9) concluded:

This discovery that corporate social reporting is an old idea with a practical base suggesting that it is an example of institutional behaviour whose frequency of occurrence depends on a matrix of societal forces. Changes in reporting practices reflect a shifting of the matrix of forces affecting corporate behaviour, resulting in a concentration on the reporting of activities that society is perceived as valuing most at the time.

A similar study of BHP over the years 1885-1985 examined for a relationship between social responsibility disclosures and significant events that occurred to the company over this time frame [Guthrie and Parker (1989)]. The analysis suggested that environmental disclosures, particularly those made in the 1970s, appeared to match community concerns with the mining industry as it became a target for conservationists [Guthrie and Parker (1989, p. 348)].⁴⁸

A study of Australian Commonwealth government entities from 1984-1993 observed in aggregate a trend of increasing environmental disclosure [Burritt and Welch (1997)]. From the analysis, Burritt and Welch (1997, p. 83) concluded "this increase parallels Commonwealth support for the ecologically sustainable development process during the 1990s". The results of these three studies are supportive of the argument that reporting of social responsibility information is a reflection of a response to the changing attitudes of the society.

Observed changes in a firm's behaviour in seeking organisational legitimacy may not solely be defined by the individual firm's activities, but as part of a need to achieve system-wide legitimacy. For example, in a study by Patten (1992) on the affect of the *Exxon Valdez* oil spill on the environmental disclosure of North American companies

⁴⁸ The authors did note that the analysis may have excluded a number of significant events or activities, and that the matching of such events and the peaks observed in the disclosures ignored possible lags between the occurrence of the event and the reporting of information.

involved in the oil industry, it was argued that the oil spill influenced the general public's perception of not only the individual firm, but also of the industry it represented.⁴⁹ Hence, it was argued that as the industry was threatened, organisations within that industry responded by reporting more positive information on the activities that impact upon the environment. The study observed an increase in the ER, both financial and non-financial⁵⁰, and concluded that this result was consistent with legitimacy theory's predictions for a change in reporting patterns due to a significant increase in community awareness and concern.

To analyse corporate management responsiveness to societal concerns or interest, SREI must be expressed in a form that can be measured. Measurement of SREI may be undertaken via a survey of community concerns, however an *ex post* analysis of opinions and concerns would not be reflective of actual levels of concern as it may be tainted by respondents' current attitudes and beliefs. To observe SREI *ex post*, proxy variables must be representative, or correspond with changes in societal responsiveness within that time period. Three proxies forwarded as representative of SREI in this study are: (i) government legislation with respect to environmental issues; (ii) influence of environmental lobby organisations; and (iii) media coverage of environmental issues.

Government Legislation

The first proxy for SREI is government legislation, which is representative of the level of government intervention on environmental issues. Arguably in a democracy, such as Australia, governments are responsive to societal concerns, and that such responsiveness may then be observed by the promulgation of legislation that regulates,

⁴⁹ As Patten (1992) quotes Brock Evans in a *Newsweek* (1989, p. 18) article about the oil spill, "This may turn out to be a seminal event, like the Santa Barbara oil spill of '69' which spurred the formation of the Environmental Protection Agency and the 'Earth Day' era of pro-environmental legislation". Patten noted that the impact had already been felt, such as the delaying of congressional vote on opening the Arctic Wildlife Refuge to oil exploration, and the side tracking of movement to allow the expansion of offshore drilling in California and Florida [*Business Week* (1989, p. 102)].

⁵⁰ The difference in disclosure content was significant at the 0.01 level for both the financial and non-financial information.

and formalises, the interaction between the community and the environment.⁵¹ As a regulator, government have been identified as a 'relevant public' for disclosure of environmental information within the AR [Neu, Warsame and Pedwell (1998, p. 271)]. Hence, corporate reporting may be targeted so as to appease the government and their regulatory bodies in an attempt to avoid further intervention. In other words, government regulation is a response to 'community beliefs' as it formalises the social contract, and government bodies are identified as users of the AR.

In Australia there has been significant increases in the level of intervention by governments with respect to the regulation of environmental impact. As stated by Bates (1995, pp. 1-2) on the Australian perspective:

...there are now few areas of environmental concern which are not subject to some form of legal regulation... With all this legislative, administrative and judicial activity it is sometimes difficult to remember that virtually no modern environmental laws currently on the statute books are more than twenty-five years old; and most are considerably younger than that...

Intervention on environmental issues can occur at all levels of government in Australia, for example:

- Local government – (eg. land zoning).
- State governments - (eg. wilderness declarations).
- Federal government - (eg. tax implications).
- International - (eg. United Nations (UN) discussions and treaties dealing with global warming and desertification).

Government intervention is usually aimed at those who are directly responsible for the production of environmental 'externalities' (i.e. the 'polluters'). The motivation behind such intervention is to force 'polluters' to internalise their impact upon the environment. Examples of such intervention are taxation deductions that may be made

⁵¹ This may however be a lagged reaction because of the time needed to enact new legislation. In other words, legislation may be initiated when community concern is high, yet not be promulgated until community concern may have waned.

available to business that make expenditures on environmental programs.⁵² Second, governments may impose strict regulations upon the producers of these ‘externalities’, thereby forcing them to internalise, or take ‘ownership’ of their impact upon the natural environment.^{53,54} For example, requirements for mine restoration and the preparation of environmental impact statements.⁵⁵

It is therefore argued that political invention may potentially have a significant impact upon the financial performance of the entity, as such it is argued that corporate management will be responsive to the changing regulative environment. Neu, Warsame and Pedwell (1998) suggest that government also have the ability to influence the perceptions of other relevant publics through prosecution, an indication of poor environmental performance. Legislation has also been observed as a major contributor to environmental accounting and disclosure, with environmental law seen as an important influence on company activities [Guilding and Kirman (1998), Tilt (1997), Tilt and Symes (1999)]. Government regulations are therefore a factor that

⁵² Examples from the taxation system in Australia encouraging environmental management are Sections 75B and 75D of the *Income Tax Assessment Act* (1936). These sections allow the deductibility of expenditure incurred on conserving or conveying water, and on work designed to prevent or combat land degradation. The deductibility of environmental expenditure is set to be incorporated within the *Income Tax Assessment Act* (1936) with the amendments proposed in the *Income Tax Assessment Act 1997*, which includes provisions on assessing environmental impact, and treating or preventing waste or pollution (Commonwealth Department of the Environment, Sport and Territories, 1996). Internationally the use of taxation to protect the environment has been adopted, for example the deductibility of remediation costs in the US [Gibby and Patella (1993), Riordan and Cairns (1994)].

⁵³ This was the thrust behind the United Nations law of the Sea negotiations during the 1970s, the placing of large areas of ocean and their beds under aegis of national sovereignty so that they might have an ‘owner’ [Simmons (1993, p. 45)].

⁵⁴ The NSW EPA has investigated the feasibility of introducing a number of economic instrument schemes. Four pilot cases selected for investigation include:

- control of phosphorus in the Hawkesbury-Nepean River System;
- reduction of salinity in the Hunter River;
- reduction of vehicle emissions; and
- water quality in the Carcoar catchment.

The findings from these studies indicated potential for the application of economic instruments [NSW EPA (1994a), (1994b), (1994c), (1994d)]. The use of tradeable licences has also been adopted as a means of internalising environmental costs by US governments [Ewer, Nance and Hamlin (1992), Steward (1992)].

⁵⁵ Each Australian state has separate legislation on restoration of mining sites: New South Wales - *Mining Act 1992* (s239), Queensland - *Mineral Resources Act 1989* (s213), Victoria - *Mineral Resources Development Act 1990* (s78), West Australia - *Mining Act 1978* (s701), South Australia - *Mining Act 1971* (s60), Tasmania - *Mineral Resources Development Act 1995* (s29), Northern Territory - *Mining Act 1980* (s166).

increases the visibility of and focus upon environmental issues [Buhr (1998)], and which are enacted in response to changes in community attitudes toward environmental impact.

Environmental Lobby

The second proxy for SREI is the influence of environmental lobby organisations, as represented by the number of individuals within the community whom are members of the organisation. It would be expected that as concern for an issue increased, more individuals within society would be motivated to join environmental organisations.⁵⁶

Environmental lobby organisations are able to highlight environmental performance by publicising poor performance, thereby affecting consumer and supplier attitudes [Deegan and Gordon (1996, p. 191)]. They are also in a position to lobby the political process by mustering public support, thereby pressuring corporate management to respond.⁵⁷ This view that the environmental lobby can influence the behaviour of companies is support by Coopers and Lybrand (1993, p. 3):

There are numerous examples of instances when environmental lobby groups have adversely affected business performance by highlighting poor environmental performance, whether perceived or actual. Environmental action groups are becoming increasingly influential within the community. Within the last decade memberships of such groups have swelled and their understanding of environmental issues and subsequently their credibility has increased steadily. Green groups are no longer a 'fringe minority' and hence their ability to shape mainstream political and general community attitudes is considerable.

Environmentalists have been vocal critics of the interaction between business and the environment [Neu, Warsame and Pedwell (1998)]. Such criticism is strengthened where there is broad community support for the environmental organisation. As the

⁵⁶ Such environmental organisations include Greenpeace, Australian Conservation Foundation, Wilderness Society, World Wildlife Fund and Friends of the Earth.

⁵⁷ For example, the Greenpeace protests over Brae Spar oil platform owned by Shell oil [Maltby (1996, p. 8)], or consumer boycotts of wood products from certain sources, and willingness to pay more for wood from 'sustainable managed forests' [Schmidheiny (1992, p. 151)].

membership numbers of these bodies change, then so will their ability to impact upon the behaviour of corporate management through their ability to lobby government bodies. Environmental lobby groups have also been identified as users of the AR [Tilt (1994)].

Prior research by Deegan and Gordon (1996) has observed a positive correlation between membership of environmental lobby organisations and the level of environment disclosure by Australian companies. However, the study was limited to four points in time over an eleven-year period. Therefore given the small number of observations any conclusions about such a relationship are at best tenuous. Further research is necessary to corroborate the existence of an association.

The Media

The third proxy for SREI is the coverage of environmental issues by the media. The media are a collection of organisations who report and inform on issues they regard as of importance to the broader community. As suggested by Panchapakesan and McKinnon (1992, p. 75), “the press is in the business of selling papers and will therefore devote more space to reporting the activities... that attract public attention”. Hence, issues considered unimportant would attract little time or emphasis, however those issues considered important, or of interest, would receive greater media coverage. A number of functions have been identified for the media [based on the work of Lasswell (1948) and Stamm and Bowes (1990)]. These are defined as:

1. Surveillance of the social environment: the media has the ability to inform the community of issues that are beyond their everyday life. The media highlight news on issues that may not directly impact upon the individual, but can influence individual attitudes and behaviour.
2. Interpretation of the social environment: the media define what is news, what society should pay attention to. The media may at times be event orientated, and hence dramatise issues or events, thereby down playing those issues that are of less interest. They also at times create ‘Pseudo events’ such as human interest stories that have no real impact upon the community.
3. Correlation of events: the media are able to link separate events so as to bring a much broader picture of an issue to the community’s attention. For example, the media can highlight a number of seemingly independent environmental issues (such as loss of rainforest, extinction of native wildlife,

and the hole in the ozone layer) and produce a story on the general decline of the natural environment due to human intervention.

4. Transmission of culture: the media have the ability to convey the culture of the time, and popularise issues of interest within that culture. It can show how things are changing and can itself promote or magnify that change.

The media are not separate from social reality, but are active participants of society that contribute to the direction or development of social realities via the way in which they shape perceptions of the world [Bennett (1977, p. 11)]. A perceived neutrality of the media gives it the ability to be persuasive with its content. Hence, what is reported is considered as representative of the 'truth' and must be considered by the intelligent reader, for the media are also a primary source of information and news for the community [Weston and Hughes (1971)].

It is argued that the media focus upon those issues on which the community express an interest, in other words, the media adopt an 'audience-centredness' approach to content [Hancock and MacCallum (1971)]. The media therefore seek to reproduce public opinion, where minority views are lost in the production of a story that is acceptable to broader community [Hancock and MacCallum (1971)]. This relationship between the audience and the media's provision of information has been explored within agenda-setting theory [McCombs and Shaw (1972), (1993)]. Agenda-setting theory suggests that the public learn from the media not only about public issues, but also the importance that is attached to those issues. Hence, if the media emphasise an event then the community see that event as important [Ader (1995), McCombs and Shaw (1972), Tan (1985)]. The media, therefore, attempt to match what they publish with what they believe is of importance to the community [Becker, McLeod and McCombs (1975)]. The agenda-setting hypothesis is expressed as follows:

- Public debate is represented by salient issues (an agenda for action).
- The agenda is derived from a combination of public opinion and political choice.
- Mass media news and information reflect the content and order of priority of issues.

- This representation of issues in the mass media exerts an independent effect on issue content and on relative salience on public opinion [McQuail (1994, p. 357)].

The adoption of media coverage of environmental issues as a proxy for societal concern has been explored by Brown and Deegan (1998). This study in an analysis over five periods (from 1980/81 to 1993/94) observed a significant correlation between negative media coverage of environmental issues and disclosure of positive information on environmental performance by Australian companies. A study by Neu, Warsame and Pedwell (1998) analysed the environmental reporting practices of 33 Canadian companies operating in environment sensitive industries over the period 1982-1991. This study reported a significant negative relationship between media coverage of environmental issues and the level of ER. Media coverage, however, was limited to coverage of environmentalist criticisms rather than complete coverage of environmental issues. Hence, the results from prior research vary and do not necessarily provide clear evidence as to the direction of a relationship between media coverage and ER. Therefore further research is necessary on this variable so as to understand a possible relationship.

3.5.3 INTRA PERIOD MODIFYING FACTORS

The social environment within which the entity operates is often turbulent with the changing expectations and needs of the individuals who make up society. Corporate management faces a continual task of adapting and changing to meet the needs of society in general. However, the level of exposure faced by entities to the social environment may vary significantly, and therefore may modify the level of their responsiveness with respect to their need to seek organisational legitimacy. Such exposure to external factors may result in demands for further information, or increase the level of scrutiny upon performance. This may provide explanation as to why entities operating in a similar social environment are observed to respond differently. It is therefore argued that while SREI influences inter period responsiveness, varying

levels of stakeholder influence and the firm's level of public exposure modify intra period responsiveness of the individual firm.

3.5.3.1 STAKEHOLDER INFLUENCE

As the size and number of corporate entities have increased, so too has their influence on society. This has resulted in their coming into contact, and interacting, with a greater number of societal organisations (such as environmental or community organisations and government bodies or departments). These societal organisations, because of their influence, have become stakeholders in the company decision process. The question is then asked; *Who are these stakeholders?* In answering who they are, an understanding is gained as to *why* they are important to corporate management in the decision making process.

Freeman (1984, p. vi) defines stakeholders of an organisation as:

...any group or individual who can affect, or is affected by, the achievement of corporation's purpose. Stakeholders include employees, customers, suppliers, stockholders, banks, environmentalists, government and other groups who can help or hurt the corporation.

Hence, stakeholders are any individual, or group of individuals, that have some involvement or interaction with the company or any of its functions. As they interact with the company, they gain power to influence aspects of the company's functions. However, it is usually the groups of individuals as stakeholders that have the greatest influence, as the size of these groups gives them a greater ability to become involved in the management processes.

The accounting profession in Australia has incorporated many of these stakeholders in what they have defined as the users of general-purpose financial reports. These users are identified by Statement of Accounting Concepts (SAC) 2 under broad categories as

either ‘resource providers’, ‘recipients of goods and services’ and ‘parties performing a review or oversight function’. The major members of each category as identified in SAC 2 are reported in Table 3.2.

TABLE 3.2: USERS OF GENERAL PURPOSE FINANCIAL REPORTS

Resource Providers	Recipients of Goods and Services	Parties Performing a Review or Oversight Function⁵⁸
employees lenders creditors suppliers investors contributors	customers beneficiaries	parliaments governments regulatory agencies analysts labour unions employer groups media special interest community groups

Source: SAC 2 “Objective of General Purpose Financial Reporting”

Many of the stakeholders in each of the broader categories, identified in Table 3.2, have very specific expectations with respect to corporate management performance. Some of the general expectations of the broad categories include:

- Resource providers of the corporate entity expect management to provide them with acceptable returns.
- Recipients of goods and services expect management to provide them with an acceptable product of value to them.
- Stakeholders who perform a review or oversight function expect management to act in a socially acceptable fashion when they interact with the community at large. However, these stakeholders are primarily concerned in the impact of the corporate entity upon their constituents.

⁵⁸ It is noted that users in this category may also be classified as resource providers or recipients of goods and services. For example, governments may also be customers of the entity as well as a supplier of goods and services. However, this study considers these functions as independent and does not seek to observe the possible interplay between differing functions. As such, in the examination of government only their impact as an oversight body is examined. Further, areas where overlap would most commonly occur, such as customers or suppliers, are not examined within this study.

From these broad categories, stakeholders that are concerned with the environmental impact by the corporate entity can be identified. These stakeholders include:

- Resource providers - shareholders, debt providers and employees. With increased regulation of environmental impact, significant costs and reorganisation of the firm may be incurred. This may have a consequential impact upon the financial performance and stability of the company. As such these stakeholders would be interested in environmental management.
- Recipients of goods and services - society in general have shown their concern for environmental issues through pressure on government organisations that have regulated interaction with the environment. However, as a body they have delegated much of their influence in regard to environmental issues to organisations that would be more properly defined in the role as reviewer, or with an oversight function.
- Organisations that perform a review or oversight function represent society in general. These include environmental groups (eg. Greenpeace) and government. Hence, their needs in regard to environmental management reflect the general needs of society. The relative power and influence of such groups reflects the importance of such issues these groups are concerned with.

Arguably, stakeholder institutions such as government bodies, environmental lobby organisations and media (social organisations performing an oversight function) are more appropriately classified as being representative of community perceptions and attitudes with respect to environmental issues rather than as specific stakeholders. Hence, this study is limited to an analysis of those stakeholders whom directly interact and are reliant upon the financial performance of the entity, and as such have the greatest direct influence on management processes. These include: (i) shareholders; (ii) debt providers; and (iii) employees. Although these are not to be considered as a finite sample of stakeholders, they are stakeholders external to management that are primarily reliant upon the financial performance of the entity.

Shareholders

It has been stated that corporate management's sole social responsibility is to shareholders, and that responsibility is to maximise profits [Friedman (1962), (1970)]. Hence, shareholders may be considered as the primary stakeholder of a company due to their ability to exert significant influence upon corporate management and their

processes. However, the maximisation of profit motive has been questioned [Patten (1992)], with acceptance of the view that companies must also provide other benefits to society. It is contended by Wartick and Cochran (1985, p. 760) that those managers who primarily focus on economic returns, and who fail to account for the social aspects of the organisation become targets for government regulation.⁵⁹ With the significant increase in environment-related government regulation, there are now considerable costs that a corporate entity can incur from poor environmental performance [Epstein (1996), Ditz and Ranganathan (1996)], which may impact upon the profitability of the corporate entity [Rubenstein (1990)]. Hence, poor environmental performance may impact upon financial performance, while good environmental performance may result in decreasing associated costs. It is therefore suggested that shareholders are concerned with environmental and other social issues due to the changing political and legal conditions [Neu, Warsame and Pedwell (1998), Wartick and Cochran (1985)]. Further, there has been an increase in ethical investment funds where shareholders are explicitly concerned with corporate social performance.⁶⁰

It is argued that the level of disclosure of information within the AR is linked to ownership diffusion [Singhvi and Desai (1971)], which may be proxied by the number of shareholders. This is justified by a number of reasons. First, the greater the number of shareholders the more publicly exposed the corporate entity [Panchapakesan and McKinnon (1992, p. 74)], and therefore subject to more pressure to conform, through the disclosure of information, with community needs. Second, a greater number of shareholders may make the corporate entity more susceptible to excessive pressure from regulatory authorities [Panchapakesan and McKinnon (1992, p. 74)]. Third, corporate entities with large numbers of shareholders may wish to disclose information to become more marketable. Finally, as the number of shareholders increase, the more likely the corporate entity is to become aware of its social responsibilities. The results

⁵⁹ Within the current political and business environment, management must be concerned with social issues such as equal opportunity, worker safety and health, and the environment.

⁶⁰ Ethical funds now command considerable resources in many countries. For example, it has been reported that ethical funds in the US were valued at approximately \$US700 billion, however in 1994 they were valued at approximately \$A50 million in Australia [Freeman (1994, p. 16)].

of the study by Singhvi and Desai (1971) show a positive relationship between number of shareholders and the quality⁶¹ of AR disclosures. McKinnon and Dalimunthe (1993) observed a moderately positive relationship (at 0.05 level of significance) between the number of shareholders and the decision to voluntarily disclose segment information by Australian companies. A similar result was observed by Malone, Fries and Jones (1993) in an analysis of the extent of financial disclosure by firms in the oil and gas industry.

A second means of observing ownership diffusion is by the level of ownership held by shareholders other than the Top 20 shareholders [Christopher and Hassan (1996)]. It is argued that the greater the ownership diffusion, as observed by the percent of share ownership by other than Top 20 shareholders, the more likely the firm is to voluntarily report additional information [Christopher and Hassan (1996)]. However, Christopher and Hassan (1996) in a study on the voluntary disclosure of cash flow statements, and Craswell and Taylor (1992) on the disclosure of reserves, failed to observe a significant relationship. However, a study by Christopher, Cullen and Soutar (1998) observed an unexpected significant negative relationship between ownership other than top 20 shareholders and the level of ER.

Debt Providers

A second provider of capital to the company are those who provide debt capital. As with shareholders, debt providers are concerned with the financial performance and stability of the organisation. However, they may also be concerned over the possibility of assumed responsibility for environmental liabilities on liquidation of the company [Neu, Warsame and Pedwell (1998)].⁶² In response to debt providers, corporate management may seek to legitimise environmental performance through additional disclosure, thereby reducing the need for further scrutiny to understand the firm's risk

⁶¹ Singhvi and Desai (1971) refer to quality as completeness, accuracy and reliability. Quality was determined by an index of 34 items that were weighted based upon a perceived level of importance from a combination of analyst interviews and from committees of Corporate Information.

⁶² Such is the case in the US under the Superfund legislation where debt providers may be classified as potentially responsible parties and hence responsible for environmental liabilities that are incurred in any cleanup process [Johnson (1993), Williams and Phillips (1994)].

profile. Reliance upon debt providers has been proxied by firm gearing or leverage. Arguably, highly geared firms have a greater obligation to satisfy the information needs of long-term creditors, and subsequently provide more detail in the AR [Wallace, Naser and Mora (1994, p. 44)]. A number of studies have observed that firm leverage has not influenced the decision to voluntarily disclose accounting information [Craswell and Taylor (1992), Hossain and Adams (1995), Inchausti (1997), McKinnon and Dalimunthe (1993), Wallace, Naser and Mora (1994)], or the level of ER [Christopher, Cullen and Soutar (1998)]. However, Malone, Fries and Jones (1993) observed that leverage was influential in the extent of financial disclosure by oil and gas firms.

Employees

A third provider of resources are the employees of the firm, with corporate accountability now including employee welfare and satisfaction. Employees are concerned with the environmental performance of the corporate entity, with would-be employees considering the environmental policies of potential employers when choosing their place of employment [Coopers and Lybrand (1993)]. Panchapakesan and McKinnon (1992, p. 74) argue that political visibility (or public exposure) may in part be a function of the number of employees.

In an analysis of the voluntary disclosure of value added statements, Deegan and Hallam (1991) observed that firms with higher labour intensity were more likely to report such information (at 0.01 significance level in a univariate analysis). However, this result may not be generally translated to other voluntary reporting practices as the analysis was of an issue directly related to employee performance within the firm. However, Panchapakesan and McKinnon (1992) also observed a significant positive correlation between number of employees and the level of SRDs.

3.5.3.2 LEVEL OF THE FIRM'S PUBLIC EXPOSURE

Management responsiveness may be observed as a gradual change. However, there are periods of intense change of circumstances.⁶³ Within the normal course of business, it is expected that corporate responsiveness will fluctuate in accordance with the expectations and attitudes of society. However, the level of responsiveness by management may be modified by the information demands of influential stakeholders, and second by the firm's level of public exposure. For example, regardless of social attitudes toward the environment, it may not be necessary for an entity with no influential stakeholders and with limited public exposure to legitimise its environmental performance. As argued by Ullmann (1985, p. 541), stakeholders would more likely focus upon the most 'conspicuous industries and firms'. This suggests that size, profitability or activities undertaken may act as factors that cause the firm to be the focus of greater public attention, thereby resulting in management being more responsive on environmental issues. Issues identified as proxies for the firm's level of public exposure are: (i) entity size; (ii) profitability of the entity; (iii) media coverage of the individual firm; and (iv) the firm's operational activities.

Corporate Entity Size

Gray (1993) reported that environmental disclosure appeared to be a "big company phenomena". Ullmann (1985) argued that this was due to stakeholders focusing upon 'conspicuous firms'. In other words, larger entities have a greater exposure and therefore receive greater attention by the community with respect to their performance, including their environmental performance. A number of studies have observed a positive relationship between social (and environmental) disclosures and size of the reporting entity [for example, Belkaoui and Karpik (1989), Christopher, Cullen and

⁶³ For example, Guthrie and Parker (1989, p. 348) suggested that observed peaks in environmental disclosure occurred when there was increased community concern and activity in the mining industry during the 1970s.

Soutar (1998), Cowen, Ferreri and Parker (1987), Kelly (1981), Neu, Warsame and Pedwell (1998), Pang (1982), Patten (1991), (1992), Trotman and Bradley (1981)].⁶⁴

Deegan and Gordon (1996) found that the size assumption cannot be generalised, finding that only for companies operating in environmentally sensitive industries did a relationship between size and level of disclosure exist. They concluded that this was a reasonable relationship, for within those industries deemed environmentally sensitive, larger firms would be deemed as causing greater environmental impact unless they provided evidence to the contrary.

Corporate Profitability

Profitability of the organisation is an issue that may focus community attention on corporate performance. It may be expected that those corporate entities that are successful with respect to economic indicators should also achieve an adequate social performance. As suggested by Alexander and Buchholz (1978, p. 479):

...socially aware and concerned management will also possess the requisite skills to run a superior company in the traditional sense of financial performance, thus making its firm an attractive investment.

In other words, those entities that have abnormally high returns may be expected to have improved environmental performance due to their ability to divert greater resources toward socially orientated projects. Further, Heinze (1976) contends that profitability is the factor that allows management to reveal the undertaking of more extensive social responsibility programs. It is therefore argued that as the level of profitability increases, the firm's profile within the community will also increase, which will subsequently result in an increase in management responsiveness with respect to environmental performance.

⁶⁴ The determination of size of the entity may be undertaken by various means including total assets [Hackston and Milne (1996), Trotman and Bradley (1981)], total sales [Belkaoui and Karpik (1989), Hackston and Milne (1996), Patten (1991), Trotman and Bradley (1981)], market capitalisation [Hackston and Milne (1996), Pang (1982)], or index rank [Cowen, Ferreri and Parker (1987), Patten (1991)]. In a study by Hackston and Milne (1996) it was observed that the firm characteristics total assets, sales and market capitalisation were all highly positively correlated.

The relationship between profitability and environmental (and other social) disclosures has been tested within a number of studies [Belkaoui and Karpik (1989), Bowman and Haire (1976), Cowen, Ferreri and Parker (1987), Heinze (1976), Neu, Warsame and Pedwell (1998), Patten (1991) (unsuccessful), Preston (1978)]. These studies provide evidence that the more profitable the entity, the greater likelihood corporate management will disclose greater levels of environmental information.⁶⁵

Media Coverage and the Individual Entity

As discussed in Section 3.5.2, the media focus upon those issues considered of importance to the broader community. Arguably this applies to the coverage by the media of individual firms. Consequently, the greater the attention given to an entity by the media, the greater the scrutiny of that entity by the general community. Prior research has suggested that the level of media coverage can be utilised as a general proxy for an entity's political visibility [Christopher and Hassan (1996), Panchapakesan and McKinnon (1992)]. Arguably the level of media coverage is possibly indicative of the level of interaction between the entity and the social environment (for example through market position, political debate, industrial conditions).

Panchapakesan and McKinnon (1992) observed that social responsibility disclosures, as measured by number of words, was significantly correlated (at the 0.001 level) to the press coverage received by the individual firm. However, Christopher and Hassan (1996) observed a significant negative relationship on the voluntary disclosure of cash flow statements by Australian companies and the level of press coverage received by the firm.⁶⁶ Hence, prior research does not provide conclusive evidence of the direction of such a relationship.

⁶⁵ Profitability, or firm financial performance, may be observed by a number of means. These may include net profit and return on assets [Hackston and Milne (1996), Inchausti (1997)], or where a profit or loss was recorded [Neu, Warsame and Pedwell (1998)].

⁶⁶ Christopher and Hassan (1996) did not explain this relationship.

Operational Activities

Industry has been identified as a factor that influences the level of corporate responsiveness to environmental issues as observed by ER practices [Deegan and Gordon (1996), Hackston and Milne (1996)]. However, it is not the arbitrary classification that defines the need for firms to seek organisational legitimacy, but the underlying operations. As observed by Patten (1992), the closeness of the firm's operations to the location of the *Exxon Valdez* oil spill was a significant factor in motivating increased ER. Hence, the type of operations undertaken by the firm will influence the level of legitimisation. For example, it would be expected that a firm involved in the chemical industry will provide more environmental information than a similar sized firm, with equivalent profit levels and comparable media coverage involved in the retail industry.

3.6 SUMMARY

Research on the motivation for corporate management's responsiveness to environmental issues, as observed by ER, has provided a number of potential explanatory variables. However, much of this research has been undertaken on an *ad hoc* basis, or focused upon single explanatory variables or a single time period. Such research disregards the notion that corporate management may be reactive to many issues, and therefore over an extended period a number of disturbances and modifying factors are influential in the need for management to seek to legitimise corporate environmental management and performance through ER within the AR.

This chapter, in Section 3.5, provides a framework for analysing disturbances influencing the process of legitimisation of environmental management and performance. As a basis of this framework it is argued that corporate management's responsiveness is influenced between periods by the changing SREI of the community in which they operate. It is, therefore, hypothesised that as SREI change, then management will adopt changing levels of ER to continue to achieve system-wide

legitimacy. SREI provides insight into the inter period variations in the disturbances that influence corporate management to adopt differing levels of ER within the AR. Three proxies identified for SREI were: government regulation, membership numbers of the environmental lobby, and media articles on environmental issues.

Prior research has suggested that within the same period firms, facing a similar social environment, are observed disclosing differing levels of environmental information. This suggests that firm specific factors might result in differing levels of corporate management responsiveness and therefore modify corporate management's need to legitimise environmental management and performance. These modifying factors are identified as related to the influence by stakeholders and the firm's level of public exposure. Three stakeholders were identified: shareholders, debt providers, and employees. Four proxies for the firm's level of public exposure were identified: firm size, firm profitability, media coverage of the individual firm and the firm's operational activities. This framework extends prior research by initiating an investigation of varying disturbances that provide a more comprehensive evaluation of corporate management responsiveness. The framework of disturbances and modifying factors on corporate management responsiveness forms the basis of the hypotheses developed in Chapter 4.