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Environmental reporting in a developing country: a case study on status and implementation in Malaysia

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Abstract

With the increase in awareness of environmental issues, the level of environmental disclosure and stakeholder demands for environmental information is increasing. New developments in the ISO 14000 standards also make it more evident that a company's environmental performance as well as its environmental reporting should be considered as strategic issues in business strategy. Especially for a developing country like Malaysia, many companies are under external pressures to improve their environmental performance.

In this study, a review on the image and environmental disclosure, together with the challenges in environmental information management and a short case study are presented. Subsequently, the paper explores some of the strategic implications of environmental reporting as an important tool for improved environmental management.

Keywords: Environmental reporting; ISO 14000; Strategic; Environmental management

1. Introduction

This paper furnishes the interpretation of the current state-of-art of Malaysian environmental reporting practices. It discusses corporate strategic practices of Malaysian corporations through voluntary engagement on environmental matters in their reporting systems. Consequently, illustration of the motives of voluntary accounting and reporting practices among Malaysian business corporations in this study may assist the business fraternity to understand relevant corporate environmental matters.

Many reasons have been discovered in leading the motivations for business organizations to respond to societal concerns, which include environmental matters. Specifically, economic and market pressures, environmental crises and high population growth rates may justify engagement in voluntary approaches.[1] Environmental reporting practices have emerged among economic players as a result of various influence factors including stakeholders' benefit, pressures from various interest groups, and political and cultural conditions. At the macrolevel, responding to voluntary environmental disclosures offers economic benefits such as being able to develop stronger business relationships with suppliers, attracting ethical investors and even penetrating new markets due to improved environmental performance. Even more fundamental is the fact that global capitalism creates pressures and tendencies for corporations to act and adopt strategic environmental practices. Additionally, ISO 14001 certification might be one of the best and most suitable examples for this

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[1] Specifically, this point relates to developing countries (1) depending much on global market relationships to maintain and enhance their economic survival, and (2) exposed to enormous environmental problems, which may be due to developments and rapid human population growth.

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case. Certification to international environmental standards creates significant trade and investment relationships[2] and in the Asia-Pacific region, ISO 14001 has been seen as an important indicator of voluntary business commitment towards environmental improvement for Singapore and Malaysia [20].

Nevertheless, the crux of the argument on the existence of organizations[3] that work seriously in responding to environmental accounting matters has been argued by Margolis and Walsh [18]. As said:

> From society's perspective, creating wealth and contributing to material well-being are essential corporate goals. But restoring and equipping human beings, as well as protecting and repairing the natural environment, are also essential objectives. Companies may be well designed to advance the first set of objectives, yet they operate in a world plagued by a host of recalcitrant problems that hamper the second set.
>
> (p. 281)

In addition, O'Dwyer [19] highlighted the core motives that drive corporate environmental engagement processes, which include *moral outrage, sense of justice, decency, and desire to serve public interest and promote empowerment, needs for change and a sense of social responsibility* (p. 524). Current global environmental movements have put great pressure to promote corporate involvement in responsible environmental management. The world has been astonished by the most recent environmental disaster, the devastating killer waves of tsunami that has wiped out Aceh, a land that was extremely rich in many resources, exotic flora and fauna, as well as huge mineral and gas deposits. In total, the disasters on Mother Earth of nine Asian countries have occurred with more than 200 000 humans killed.

These environmental issues put pressures on various groups[4] including the economic players to strategize their business and engage themselves in environmental agendas. Thus, to understand business strategies on environmental engagement, this study was designed to analyze the environmental reporting practices of Malaysian corporations on the extent of their involvement in preserving the natural environment. In this case, the voluntary environmental reporting practices are seen as corporate strategic environmental engagement. Studying Malaysia is interesting, based on her status as one of the leading developing economies of the world. This put Malaysia in a position to not only connect herself with the environmental preservation movements but also to strategize the engagement in maintaining and ensuring growth in its economy.

The objective of this paper is to explore current Malaysian voluntary environmental reporting practices, which provide an understanding of local directions with regard to the environmental agenda. It begins with reviewing of the literature and relevant local guidelines based on the accountability and stakeholder framework.[5] The paper continues with reviews on Malaysian settings in the (1) economic environment and (2) environmental crises. The discussion then turns to the analysis of environmental reporting practices among Malaysian publically listed companies, examining the current state and its relationship with ISO 14001 certifications. The final section of the paper interprets and draws conclusions about the Malaysian strategic environmental engagement status and its future towards sustainability reporting in the context of improved environmental management.

2. Literature review

2.1. Environmental disclosures

Businesses and organizations inevitably have connections linked by social contract with the society surrounding them, thus raising the demands for their discharge of accountability. Gray et al. [11] defined accountability and social relationship as being "*concerned with the relationships between groups, individuals, organizations and the rights to information that such relationships entail*". Environmental accountability values can be developed through discourses of accounting [23] with transparency and completeness indicating the collective meanings of the disclosures, self-respect and closeness of relationships [17]. Inevitably, corporate environmental reporting acts as the vehicle for providing environmental data designed to satisfy the accountability relationships and to indicate corporate consciousness through a moral discourse [23] on environmental issues. It justifies an environmental accountability level in creating a just society amongst business corporations.[6]

Various influencing factors that motivate strategic environmental practices have been discovered in previous social and accounting studies. Among others, characteristics of companies [5], influential factors [14] and incidents that led to the

[2] This is one of the results by the Organisation for Economic Co-operation and Development (OECD) Report on Trade and Investment.

[3] The word existence here means the reasons for an organization's existence, its roles and reasons for running business.

[4] Various groups are affected and pressured by environmental crises, including the public community, government, non-organizational organizations, taxpayers and others. This paper particularly defines various groups as groups with human involvements and activities that are related to any conditions of environmental activities.

[5] The role of businesses in society is a complex and critical issue. Businesses' role is critical given their operations and associated powers depend on society's assent to their activities. Besides, corporations are accountable and have direct and indirect connection/responsibility to stakeholders. As stakeholder theory describes, under a wide corporate perspective, corporations are accountable to anyone or any entity that relies on their business information for further undertakings. Stakeholders expect business corporations to provide information on their environmental performance.

[6] Gray [10] noted that the development of an accountability system brought in two main purposes—firstly, as a means for closer social relationships and secondly, for the incremental expansion of an organization's transparency. The most notable manner for corporations to display their accountability essence is through their accounting and reporting processes, thus, accounting acts as a means to discharge accountability between corporations and other parties.

pressure [8] have, to some degree, motivated companies to report more environmental information. Among the incidents that led to the rise in environmental disclosures are the Alaskan oil spill near Valdez in 1989, issues of concern such as global warming ozone layer thinning, deforestation and fair trade. Environmental reporting has also been found to have a link with financial performance [25] and management motivation [27]. Recently, Al-Tuwaijri et al. [2] has statistically proven the relationships between environmental disclosure, environmental performance and economic performance. They suggested that 'good' environmental performance is significantly associated with 'good' economic performance and also more extensive quantifiable environmental disclosures of specific measures and occurrences.

Despite the findings on the improvements of the engagement of the corporations on strategic environmental movements, environmental reporting is still very low and general, and descriptive in nature[7] [15]. This raises the question about the reasons for the minimal reporting. Is it due to reasons such as lack of expertise in environmental matters or because of minimal collaboration between accountants and environmental engineers?

2.2. ISO 14001 certification

The ISO 9000 and ISO 14000 families are among the ISO's most widely known and successful standards ever. ISO 14000 may have significant influence on environmental management aspects and it is comparable with the impact of ISO 9000 on quality assurance and quality management. ISO 14000 environmental management systems are helping organizations, of all types, to improve their performance and making a positive impact on business results. Generally, it covers what organization does to minimize harmful effects on the environment caused by its activities. ISO 14000 creates a framework to prevent and detect noncompliance with environmental laws and regulations regardless of what country is involved. The standards cover the specific focus on environmental issues, which will measure and certify its compliance. The adopters of these standards are obliged to develop their mission, targets, policies and procedures that continuously monitor the effects of their operations against the natural environment. Besides, controlling measures need to be set up for any possible negative impacts that may occur.

An ISO 14001 certification provides confidence to external parties, providing evidence that the companies have control over the significant aspects of their operations and activities, they are committed to comply with all relevant environmental legislation and regulations and that they are continuously improving their environmental performance. Nevertheless, there are companies that chose to set up environmental management systems (including environmental disclosure practices) without seeking a certificate. The reasons maybe the costs of implementing the procedures, investments towards controlling measures, auditing costs, training costs and many more.

Fig. 1 describes the comparison between the number of companies in various countries that report environmental issues and the number of companies with ISO 14001 certification. In total, 15 out of the 27 countries have more companies with ISO 14001 than the reporting practices. It is interesting to note that Japan, the world's leading country certified with the ISO standard, has approximately 10% of the total ISO 14001 certified companies producing environmental reports. In contrast, the UK has a ratio of approximately 1:4 of ISO 14001 certified companies compared with the number of companies that produce environmental reports. In general, it can be observed that the reason for large differences between companies reporting and companies certified with the ISO standard especially for UK, USA, Canada and Norway is that these countries have some form of mandatory regulations for environmental reporting.

2.3. The Malaysian scenario

Malaysia, being one of the Asian countries that is rapidly developing, may increasingly face the tension between the economic incentives and the claim for ethical consciousness with regard to accounting for the environment. Thus, there is an increase in the need to understand the local environmental position and its economic dependency in interpreting Malaysian motivational factors for environmental accounting and reporting.

2.3.1. Some evidences of environmental degradation

Corporations may argue that (1) their business operations do not damage or even give negative impacts on the environment and (2) responding to the issue may not bring any economic benefits to the well-being of their businesses. Nevertheless, as highlighted by Gray et al. [12], what is controversial is whether business success is gained at the expense of environmental degradation or whether they are actually providing contributions to the well-being and the sustainability of the environment. Conditions about the status and impact of environmental crises need to be determined to ensure that corporations realize the importance of integrating environmental information into their management systems.

The rapid rates of urbanization, the intensification of environmental impacts from industry as well as fast population growth have caused adverse social, economic as well as environmental impacts. As a developing country, Malaysia is also suffering from deforestation with major causes from large-scale land development, mining and dam construction and logging. These crises have caused loss of biodiversity, erosion, wildlife being threatened, siltation of rivers and water pollution. Other major local environmental issues are air

[7] For instance, the survey study by Deegan and Gordon [6] found that Australian environmental reporting practices cover only 36% while in Malaysia, the ACCA [1] survey found that there were only 40 companies (8%) reporting environmental information in their annual reports across the main board listed Malaysian companies in the year 2001. Many disclosures made reported philanthropic activities describing corporate charitable aids. Actual corporate environmental initiatives relating to corporations' operations in improving environmental performance are found to be very minimal.

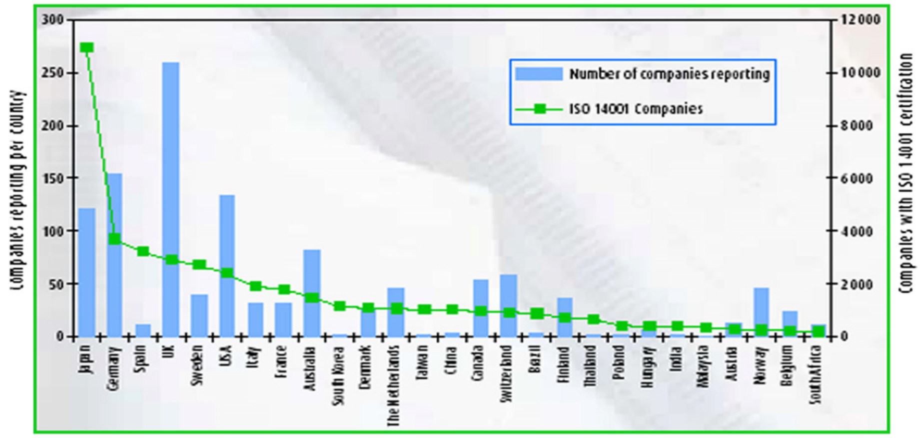

Fig. 1. Environmental reporting companies and ISO 14001 companies. Source: CorporateRegister.com, July 2003, quoted from Scott [22].

pollution from industrial and vehicular emissions, and water pollution from raw sewage, which also endangers the natural habitat. The air pollution mainly comes from motor vehicles, power stations, industrial usage fuel and process and open burning practices.

2.3.2. Economic dependency

The link between the behavior towards environmental strategic management practices and economic development may lead to the recognition of the role of environmental reporting and accounting. With a real GDP growth of 5.7% in the first quarter of 2005 worth $115.2 billion, Malaysia is one of the economically blooming Southeast Asian countries, which has successfully managed and recovered from the Asian financial crisis of the late 1990s. However, with its economy relying on exports of palm oil, petroleum and manufactured IT and electronic goods makes Malaysia very dependent on the world's economy. Furthermore, Malaysia has to compete with the growing investment of its neighboring Asian countries, especially China.

This pressing situation forces the economic players to be more competitive and innovative in running their businesses. They need to strategize with appealing business plans and policies, which will attract more investment for their better well-being. High dependency on wide and foreign economic networks also requires corporations to follow global trends, and voluntary environmental reporting is one of them. With environmental and sustainability issues becoming one of the most urgent global issues, Malaysia will not be able to avoid them. In fact, responding to the trend may even assist Malaysia to penetrate across the border markets as good environmental performance (or resource productivity) is one of the advantages in dynamic corporate competition [21]. At this point, it is interesting to study the link between environmental strategic reporting practices with ISO 14001 certification. It may clarify, in some way, whether environmental management certification aids the company in market penetration purposes or if success is due to corporate self-environmental awareness and accountability.

3. Methods

Samples of the study comprise the top 50 Malaysian public companies from various industries listed on the Bursa Malaysia in the financial year 2003. The sample was chosen due to the report of studies that large companies tend to report more environmental information [4,6]. This study was designed to analyze the extensiveness of environmental information reported by these companies.

The use of annual reports as the main data source in this study was chosen due to the following justifications:

- The annual report is the primary source of corporate environmental reporting [3,28].
- In Malaysia, annual reports of listed companies are the most accessible source of information (either in hard copies or electronic publications).

Content analysis was employed on the corporate annual reports to examine the types and nature of environmental information being disclosed. A disclosure checklist was built based on a number of previous researcher's approaches [13,16,28]. The checklist was also developed based on the decision rules for the categories of social and environmental disclosures developed by the Center of Social and Environmental Research (CSEAR) United Kingdom and guidelines on performance indicators developed by the Global Reporting Initiative (GRI). The checklist contains 24 items of environmental information, which have been grouped into six categories, namely, financial factors (*FINFAC*), litigation (*ENVLIT*), pollution abatement (*POLAB*), environmental preservation (*ENVPRE*), other environmentally related information (*OTHENV*) and environmental initiatives (*ENVINI*). Levels of extensiveness for each of the environmental information parameters are measured according to five categories, namely, non-disclosure (*NON*), general information (*GEN*), qualitative/narrative information (*QUA*), quantitative information (*QUAN*) and combination of types of information (*COM*). *GEN* information are any environmental statement of a sentence in length while environmental information that covers the information other than financial information is grouped under *QUA*. However, *QUA* type of information also contains 'a long' description on the environmental performance of the companies, 'long' being more than one sentence. It also covers pictorial information such as graphs and photos of event. *QUAN* environmental information is information that relates to disclosure of any quantitative numbers; it may include actual environmental numbers and financial numbers. The final group *COM* contains any environmental information of both *QUA* and *QUAN*.

4. Results and discussions

The study found that 36 out of 50 companies reported some kind of environmental information in their corporate annual reports. As shown in Table 1, among the top 50 companies examined, the environmental reports represent eight out of 11 sectors under the main board of Bursa Malaysia. The other three sectors are mining, technology and hotel. It can be rationalized that these three sectors totally failed to engage in environmental reporting practices because

(1) none of the mining and hotel companies belong to the top 50 list, and
(2) there were only two technology companies included in the top 50 list; previous studies evidenced that this sector tends to belong to non-environmentally sensitive industries, which usually have no influence on level of environmental disclosures (for instance, Refs. [6,14]).

Data presented in Table 1 demonstrate that among the eight sectors, trading/services sector comprised the highest number of companies that voluntarily report environmental information.

In this study we are interested to explore the voluntary reporting behavior of ISO 14001 accredited companies (ISO companies hereafter). Do ISO accredited companies voluntarily report more environmental information publicly than non-accredited companies? To what extent do these companies disclose environmental information? Table 2 shows that out of the 36 environmental reporting companies, only 36% (13) companies were ISO 14001 certified. Nevertheless, it is interesting to note that all ISO companies made some form of environmental disclosures in their annual reports while 23 out of 37 (62%) non-ISO certified companies made environmental disclosures. This initial finding indicates that, in some way, ISO 14001 certification has put some pressure upon the companies to make some form of environmental reporting.

Table 1
Demographic results

Sector	Companies			
	Disclose		Not disclose	
	No.	%	No.	%
Plantation	4	11.1	1	7.1
Property	3	8.3	0	0
Trading/services	11	30.6	6	43.0
Construction	5	13.9	0	0
Industrial product	3	8.3	0	0
Consumer product	4	11.1	3	21.4
Infrastructure	1	2.8	1	7.1
Finance	5	13.9	3	21.4
Total (50 co.s)	36 (100%)		14 (100%)	

Table 2
Environmental reports and ISO 14001 certification

ISO 14000	Disclose		Total
	Yes	No	
ISO	13	0	13
Non-ISO	23	14	37
Total	36	14	50

In exploring further, the voluntary reporting behavior of ISO certified companies, this study examined the type and nature of environmental information reported. Table 3 illustrates that out of the six environmental categories studied, the first two categories, namely, financial factors and litigations were not reported at all by any ISO certified companies. With regard to the other four environmental categories, they were either reported in general or qualitative types of information. Only one case of environmental disclosure (environmental initiatives category) was made as a combination of environmental information. Comparing between non-environmental disclosure and environmental disclosure practices, only four out of the 24 environmental information items were reported by more that 50% of ISO certified companies amongst samples studied, namely, (1) control, installation and process, (2) environmental regulations, (3) environmental policies and (4) environmental management system. A mixture of voluntary environmental reporting behavior (i.e. non-disclosure and disclosures) was evidenced in all 24 environmental items studied except for information on their environmental management system (zero non-disclosure, 10 qualitative information and three quantitative information), making it the most disclosures made by ISO certified companies. This may be due to the fact that ISO 14001 addresses the selection of suitable performance indicators, which are used for environmental assessment based on the criteria set by the management in which the information can then be used for the environmental reporting process.

The least environmental information element reported were land rehabilitation and remediation, environmental memberships/relationships and environmental stakeholder engagement activities, where only one out of 13 ISO certified companies make such disclosure in its annual report. At this point, it can be commented that these two observations could seem to be voluntary environmental activities that are 'new' and yet to be engaged by Malaysian corporations.

Focusing on the level of extensiveness, the most reported environmental information in their general statements pertains to their environmental management system (10 cases) while the most reported environmental issues in qualitative type of information are environment policies or concerns (eight cases).

Table 3 further demonstrates the relationships between ISO 14001 certification and environmental disclosure practices. Using statistical analyses, it was found that at the 95%

Table 3
Relationships between ISO certification and environmental items

Environmental information	Level of extensiveness					Chi-square tests	
	NON	GEN	QUA	QUAN	COM	Value	Sig.*
Financial factors							
Past and current expenditures/operating costs	13	–	–	–	–	–	–
Future estimates of expenditures/operating costs	13	–	–	–	–	–	–
Financing for environmental equipment	13	–	–	–	–	–	–
Cost accounting	13	–	–	–	–	–	–
Litigation							
Past and present litigation	13	–	–	–	–	–	–
Potential litigation	13	–	–	–	–	–	
Pollution abatement							
Environmental data	9	2	2	–	–	12.791	**0.012**
Control, installations, facilities or processes described	6	1	6	–	–	10.619	**0.005**
Land rehabilitation and remediation	12	0	1	–	–	2.904	0.088
Environmental preservation							
Conservation of natural resources	10	0	3	–	–	2.109	0.550
Departments or offices for pollution control	9	1	3	–	–	3.544	0.170
Other environmentally related information							
Regulations and requirements	5	4	4	–	–	11.684	**0.003**
Policies or company concern	3	2	8	–	–	12.994	**0.002**
Goals and targets	7	4	2	–	–	7.857	**0.020**
Awards	9	3	1	–	–	3.356	0.187
Environmental audit	10	2	1	–	–	2.041	0.36
Environmental management system	0	10	3	–	–	28.777	**0.000**
Environmental end products/services	7	2	4	–	–	7.857	**0.020**
Environmental initiatives							
Sustainable development reporting	11	1	1	–	–	3.610	0.165
Environmental memberships/relationships	12	0	1	–	–	0.364	0.834
Environmental stakeholder engagement activities	12	1	0	–	–	2.904	0.088
Environmental programmes	8	3	1	–	1	4.440	0.350
Environmental research and development	11	1	1	–	–	3.034	0.219
Environmental awareness and education programmes	9	1	3	–	–	1.552	0.460

* 95% significant level.

significance level, seven out of 24 environmental items studied were found to have some relationships with the certification factor in which the majority of the items are categorized under other environmentally related information. The statistical test further examined whether ISO 14001 certification has any influence on the categories of environmental items reported by Malaysian companies (*FINFAC*, *ENVLIT*, *POLAB*, *ENVPRE*, *OTHENV* and *ENVINI*). It was discovered that ISO 14001 certification is an influencing factor for companies to report some environmental information on a voluntary basis. Specifically, it was found that certification plays a significant role in influencing companies to report environmental information under the categories (1) pollution abatement and (2) other environmentally related information.[8]

It must be noted that no inferences or generalizations are intended to be made in this study on Malaysian company's environmental reporting practices. The results of this study are only relevant to the sample of companies studied, which comprise the ISO certified companies among the top 50 Malaysian listed companies. However, the findings do add to the local literature on corporate strategic practices and environmental management among the ISO certified companies.

5. Conclusions

Based on the results of this study, it can be concluded that the level of extent of environmental information reported in Malaysian corporate annual reports is rather low. The examination of ISO company's annual reports revealed that they only report environmental information either in general or in qualitative terms. In addition to that, the most reported information in general statements is that they have an environmental management system while the most reported environmental issue in qualitative terms is that environment policies or concerns are being addressed.

This study also concludes that ISO certification has some level of influence towards voluntary environmental reporting

[8] When the results for the dependent variables were considered separately, using a Bonferroni adjusted alpha level of 0.0083, the only differences to reach statistical significance were *POLAB*: $F = 9.577$, $p = 0.003$ and *OTHENV*: $F = 31.478$, $p = 0.000$. In other words, the only significant differences between ISO certification with non-ISO certification were the environmental disclosures on pollution abatement and other environmentally related information. Additionally, the impact of certification is material and significant (partial eta squared = 16.6% and 39.6%, respectively).

behavior amongst the sampled Malaysian companies, specifically on 'pollution abatement' and on 'other environmentally related information' categories of environmental information.

This study explored the voluntary environmental reporting practices amongst Malaysian ISO 14000 accredited companies but understanding of their motivations for such behavior is very crucial yet extremely difficult to be investigated. Do environmental disclosures portray 'genuine environmental concern' or is it a business-market strategy? Many have believed it is the latter where the disclosures improve corporate image [7], due to improving their competitive edge and cost reduction [9]. In addition, Solomon and Lewis [24] gathered perceptions from groups of corporate stakeholders and found that corporate environmental reporting "*might be driven by marketing incentives, corporate image and peer pressure*" (p. 15).

Modern social and environmental frameworks have a tendency to visualize environmental accounting and reporting as an instrumental and economic tool, which can limit the scope of how we think about the environment. In fact, this is important for the Malaysian settings because not only is the environment an issue of concern, but also about how it can be integrated into how we are governed, monitored and regulated. It is hoped that environmental reporting practices may act as an educative means on the importance of environmental management and preservation, since the importance of preserving the environment has been raised by the Malaysian Prime Minister:

> "While we can never prevent the forces of nature, we can certainly take preventive measures to minimize the impact and extent of destruction."
>
> *Star, 25 January 2005, p. 1* [26]

References

[1] ACCA. The state of corporate reporting in Malaysia. Malaysia: The Association of Chartered Certified Accountants; 2002 [ACCA Malaysia Sdn. Bhd].
[2] Al-Tuwaijri SA, Christensen TE, Hughes KE. The relations among environmental disclosure, environmental performance and economic performance: a simultaneous equations approach. Accounting, Organizations and Society 2004;29(5–6):447–71.
[3] Christopher T, Hutomo YBS, Monroe G. Voluntary environmental disclosure by Australian listed mineral mining companies: an application of stakeholder theory. The International Journal of Accounting and Business Society 1997;5(1):42–65.
[4] Cormier D, Magnan M. Environmental reporting management: a continental European perspective. Journal of Accounting and Public Policy 2003;22(1):43–62.
[5] Cowen SS, Ferreri LB, Parker LD. The impact of corporate characteristics on social responsibility disclosure: a typology and frequency-based analysis. Accounting, Organizations and Society 1987;12(2):111–22.
[6] Deegan C, Gordon B. A study of the environmental disclosure practices of Australian corporations. Accounting and Business Research 1996; 26(3):187–99.
[7] Deegan C, Rankin M. The materiality of environmental information to users of annual reports. Accounting, Auditing and Accountability Journal 1997;10(4):562–83.
[8] Deegan C, Rankin M, Vought P. Firms' disclosure reactions to major social incidents: Australian evidence. Accounting Forum 2000;24(1): 101–30.
[9] Ghobadian A, Viney H, James P, Lu J. The influence of environmental issues in strategic analysis and choice: a review of environmental strategy among top UK corporations. Management Decision 1995; 33(10):46–58.
[10] Gray R. Accounting and environmentalism: an exploration of the challenge of gently accounting for accountability, transparency and sustainability. Accounting, Auditing & Accountability Journal 1992;17(5): 399–425.
[11] Gray R, Dey C, Owen D, Evans R, Zadek S. Struggling with the praxis of social accounting: stakeholders, accountability, audits and procedures. Accounting, Auditing & Accountability Journal 1997;10(3):325–64.
[12] Gray R, Bebbington J, Collison DJ, Kouhy R, Lyon B, Reid C, et al. The valuation of assets and liabilities: environmental law and the impact of the environment agenda for business. Edinburgh: ICAS; 1998.
[13] Guthrie JE, Parker LD. Corporate social disclosure practice: a comparative international analysis. Advances in Public Interest Accounting 1990;3:159–75.
[14] Halme M, Huse M. The influence of corporate governance, industry and country factors on environmental reporting. Scandinavian Journal Management 1997;13(2):137–57.
[15] Harte G, Lewis L, Owen D. Ethical investment and the corporate reporting function. Critical Perspectives on Accounting 1991;2(3): 227–54.
[16] Higgs D. The emerging relationship between financial and environmental performance at, <http://www.business-in-environment.org.uk/pdfs/>; 2000 [accessed 23.04.04].
[17] Lehman G. A legitimate concern for environmental accounting. Critical Perspectives on Accounting 1995;6:393–412.
[18] Margolis JD, Walsh JP. Misery loves companies: rethinking social initiatives by business. Administrative Science Quarterly 2003;48(2): 268–305.
[19] O'Dwyer B. Conceptions of corporate social responsibility: the nature of managerial capture. Accounting, Auditing & Accountability Journal 2003;16(4):523–57.
[20] Perry M, Singh S. Corporate environmental responsibility in Singapore and Malaysia. Technology, business and society programme paper. New York, United Nations Research Institute for Social Development (UNRISD) 2001;3:1–41.
[21] Porter M, Van der linde C. Towards a new conception of the environmental-competitiveness relationship. Journal of Economic Prospectives 1995;9: 97–118.
[22] Scott P. Management systems and sustainable development: the moving goal posts from environmental to corporate responsibility. ISO Management Systems 2003:27–32.
[23] Shearer T. Ethics and accountability: from the for-itself to the for-the-other. Accounting, Organizations and Society 2002;27(6):541–75.
[24] Solomon A, Lewis L. Incentives and disincentives for corporate environmental reporting. Business strategy and the environment conference. Leeds University; 2000.
[25] Teoh HY, Pin FW, Joo TT, Ling YY. Environmental disclosures-financial performance link: further evidence from industrializing economy perspective. APIRA 98, Osaka, Japan; 1998.
[26] Wai WC. Save the World. Kuala Lumpur: Star; 2005. p. 1–2.
[27] Wilmshurst TD, Frost GR. Corporate environmental reporting: a test of legitimacy theory. Accounting, Auditing and Accountability Journal 2000;13(1):10–26.
[28] Wiseman J. An evaluation of environmental disclosures made in corporate annual reports. Accounting, Organizations and Society 1982;7(1): 53–63.