

# CORPORATE ENVIRONMENTAL REPORTING PRACTICES IN FINLAND: A REVIEW AND AGENDA FOR FUTURE RESEARCH

Probal Dutta \*

\* School of Accounting and Finance, University of Vaasa, Finland  
Contact details: School of Accounting and Finance, University of Vaasa, Wolffintie 34, 65101 Vaasa, Finland



## Abstract

**How to cite this paper:** Dutta, P. (2018). Corporate environmental reporting practices in Finland: A review and agenda for future research. *Corporate Ownership & Control*, 15(3-1), 260-267. <http://doi.org/10.22495/cocv15i3c1p9>

Copyright © 2018 The Authors

This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0). <http://creativecommons.org/licenses/by-nc/4.0/>

**ISSN Online:** 1810-3057

**ISSN Print:** 1727-9232

**Received:** 02.03.2018

**Accepted:** 07.05.2018

**JEL Classification:** M410

**DOI:** 10.22495/cocv15i3c1p9

The research in the area of corporate environmental accounting and reporting in the context of Finland is scarce. This paper outlines the studies conducted to date on Finnish firms' environmental reporting practices with a view to discovering research gaps in the literature concerning environmental accounting and reporting in the Finnish context. The paper adds to the existing literature by identifying research gaps such as the antiquity of datasets used in the previous studies, the risk of failure to generalize the findings of the prior investigations and most importantly the research negligence towards the impact of Finnish firms' activities and operations on climate change and changes in biodiversity. Hence, the paper has implications for researchers, who could address the identified void in future research and thereby advance further the literature concerned with environmental accounting and reporting. Policy makers could also benefit from this paper as its findings could help them formulate necessary disclosure requirements for the improvement of corporate environmental reporting practices in Finland. This paper focused only on the studies on Finnish firms and thereby limited the scope for any comparison between Finland and other Nordic countries as far as research on environmental reporting practices is concerned; this is the principal limitation of this study.

**Keywords:** Corporate Environmental Reporting, Finland, Review, Agenda for Future Research, Climate Change, Biodiversity

## 1. INTRODUCTION

The thinking, as summarized by Jones (2010), of writers such as Naess (1985) and Rolston (1985) sheds light on a relatively new theoretical perspective that humans are both parts of and apart from the natural environment. Jones (2010) explains further that humans, as suggested by the theory of evolution, have evolved through the process of natural selection from within the animal kingdom, but through manipulative technology the natural environment is being shaped by humans increasingly and intermittently and this is how humans are both parts of and apart from the natural environment. Jones (2010) argues that human impact, particularly industrial activity, is directly responsible for incidents (e.g., the Exxon Valdez oil spill in Alaska in 1989; Chernobyl disaster in 1986; Bhopal gas tragedy in 1984) that have put the natural environment

under threat. The consequences of industrial activities include global warming, erosion of ozone layer, a decline of biodiversity, acid rain and global water crisis (Balali et al., 2009; DeCanio, 1992; Morissette, 1989; Pretty, 1990; Regens & Rycroft, 1988; Sahay, 2004). These environmental problems or threats which Beck (1992, 1999) theorizes as environmental risks neither observe geographical boundaries nor do they differentiate rich and powerful from poor and powerless (Beck, 1992, 1999; Jones, 2010; Sahay, 2004). In the face of such environmental risks, "managing environmental responsibilities has become an integral part of doing business in the global economy" (Sahay, 2004, pp. 12-13). Moreover, public awareness of the role that corporations play in environmental change is increasing (Braam et al., 2016) and compelling management to build synergy between their economic and environmental policies (Sahay, 2004). Various stakeholders, as evidenced by the worldwide growth in

corporate responsible investments, are urging companies to become more responsible for the impacts that their decisions and activities have on the environment and are putting pressure on them to assume greater responsibility for sustainable development<sup>1</sup> (Braam et al., 2016). Along with stakeholders, a variety of environmental laws, rules and agreements and market-oriented emission-trading schemes encourage companies to become more accountable for environmental issues (Braam et al., 2016; Sahay, 2004) leading to the demand for increased information transparency regarding environmental concerns (Meng et al., 2014) as such transparency rationalizes the expectations of investors and other stakeholders for the corporate environmental responsibility (Giannarakis et al., 2017; Liao et al., 2015). Stakeholders' demand for environmental information transparency can be met by adopting corporate environmental reporting (CER) practices.

CER is a process through which "companies often disclose environmental information to their stakeholders to provide evidence that they are accountable for their activities and the resultant impact on the environment" (Lodhia, 2006, p.65). CER, which is a sub-division of the larger area of corporate social reporting, has attracted attention from researchers for three decades (Sahay, 2004). In the 1970s, the limitations of the traditional management paradigm were being questioned and researchers were exploring the linkages between accounting, organizations and society, but the concern turned more specifically to environmental issues in the 1990s (Jones, 2010).

Most of the world's biggest companies have already adopted corporate social and environmental reporting practices (KPMG, 2017) and in recent years, improvements have been found in the general quality of the disclosures and comparability of the information reported; the breadth of topics discussed has widened as well (Vinnari & Laine, 2013). The emergence and subsequent rapid development of corporate social and environmental reporting practices have captured increasing attention from researchers and a wide range of studies have been undertaken (e.g., Adams, 2002; Ahmed, 2016; Ahmad et al., 2017a, 2017b; Akrouf & Othman, 2016; Alotaibi & Hussainey, 2016; Bebbington et al., 2009; Deegan & Blomquist, 2006; Deegan & Gordon, 1996; Deegan et al., 2002; De Villiers & van Staden, 2006; Ghabayen et al., 2016; Guthrie & Farneti, 2008; Guthrie & Parker, 1989; Modiba & Ngwakwe, 2017; O'Donovan, 2002; Owen, 2008; Parker, 2005; Testarmata et al., 2018; Yaseen et al., 2018); Table 1 summarizes notable studies of this kind. But despite the existence of a vast literature of corporate social and environmental reporting practices, there has been relatively little research into the reporting of corporate environmental performances in the context of Finland. In other words, extant literature regarding Finland is still incipient.

Hence, the primary objectives of this paper are two-fold. First, to outline the studies that have been undertaken on corporate environmental reporting practices in the Finnish context. Second, to identify potential avenues for future research on corporate

environmental reporting in Finland.

The paradoxical nature of the natural environment in Finland makes the country a relevant geographical area for this paper. The findings presented in a general report titled 'State of the Environment in Finland 2013'<sup>2</sup> show an improvement in the state of the environment with a decrease in air and water pollution; a decline in emissions has also been reported, the credit thereof being given to advances in fuel technology and improvements in industrial processes and treatment technologies as well as use of natural resources from overseas on which a considerable share of Finland's economic growth in recent decades has been based. The emissions of sulphur and nitrogen oxide have declined by more than three quarters since 1990 (measures taken to reduce ammonia emissions have not been that effective though) and discharges from industry and communities have reduced sharply since 1980<sup>2</sup>. Despite these visible improvements, a number of serious environmental threats still exist. Serious problems like climate change and biodiversity loss remain unresolved<sup>2</sup>. The average temperature has increased by nearly one degree in Finland over the last hundred years, warming is most intense in spring time<sup>2</sup>. Approximately one-tenth of Finnish species were threatened in 2010<sup>2</sup>. In addition, rivers still carry high quantities of nutrients and since the 1990s, the nutrient balance of cropland has declined in Finland, with the phosphorus balance, in particular, falling by up to one quarter from 1996 to 2011<sup>2</sup>. Although the status of the easternmost part of the Gulf of Finland has improved in recent years (thanks to water protection measures and more efficient wastewater treatment), many small lakes in Southern Finland suffer from eutrophication<sup>2</sup>. High nutrient concentrations are also degrading the status of rivers<sup>2</sup>. In the coastal region, the status of the Archipelago Sea and the Gulf of Finland is alarming<sup>2</sup>. The presence of these contradictions in the natural environment in Finland calls for the current review.

Though this paper reviews the research on environmental reporting practices in Finland, it does not belittle the importance of such research in other parts of the world as this type of studies have implications for investors, policy makers and corporate managers across the globe. By way of example, the value relevance of environmental information can be considered. Research confirms that environmental information is relevant to investors (Bowerman & Sharma, 2016; Hassel et al., 2005; Moneva & Cuellar, 2009); the disclosure of environmental information in addition to financial information can decrease the information asymmetries between a company and its external shareholders (Myers & Majluf, 1984) and can lead to a higher market valuation of its shares (Healy & Palepu, 2001). Therefore, corporate managers can increase the informativeness of share prices through environmental reporting. Policy makers can also play an important role in this issue by formulating relevant disclosure policies for the improvement of corporate environmental reporting practices.

The rest of the paper proceeds as follows.

<sup>1</sup> In 1987, the World Commission on Environment of the United Nations Organization defined sustainable development as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

<sup>2</sup> European Environment Agency (EEA). (2015). *Finland country briefing – The European environment – state and outlook 2015*. Retrieved from the World Wide Web: <https://www.eea.europa.eu/soer-2015/countries/finland/#key-findings-of-the-state-of-environment-report%2%A0>

Section 2 reviews prior studies on environmental reporting in Finland. Section 3 discusses possible avenues for future research. Section 4 concludes the paper.

## 2. PRIOR STUDIES ON FINNISH FIRMS' ENVIRONMENTAL REPORTING

In this section, we aim to review prior studies conducted in the context of Finland. The review begins with the study conducted by Niskala and Pretes (1995), who draw a sample of 75 largest Finnish firms from the most environmentally sensitive industries. They analyze the annual reports of these firms at two points in time: 1987 and 1992. Using the technique of content analysis, these annual reports are scrutinized with a view to determining the type of environmental information disclosed in them. The researchers gather three types of environmental information namely, qualitative, quantitative and financial. Qualitative environmental information refers to all verbal disclosures, whereas quantitative and financial environmental information includes information on environmental measures (e.g., emission levels) and all environmental information expressed in monetary terms respectively. The results of this study reveal that most of the disclosures are qualitative in nature. The findings indicate further that though the disclosure level has increased significantly from 1987 to 1992, less than half of the sampled firms are disclosing environmental information. The results are frustrating as these firms are selected from the highly environmentally sensitive industries. The authors also report that the environmental reporting of Finnish firms is less common compared to other European countries.

Halme & Huse (1997) survey annual reports (of 1992) of 140 firms from Finland, Norway, Sweden and Spain in order to examine the influence of corporate governance, industry and country factors on environmental reporting. Their study offers some interesting findings. They find the industry to be the most influential factor in explaining the level of environmental disclosure in corporate annual reports as corporations that have been traditionally heavy polluters report the most on the environment. The researchers have not found corporate governance variables to be significantly associated with the level of environmental reporting. Another interesting finding of the study is that Finnish firms are less attentive to the environment than Norwegian and Swedish firms. The researchers make a mention of Finland's industrial culture as a possible explanation thereof. Finnish firms are "reluctant to use environmental issues as competitive or marketing factors" (p.153); moreover, emissions from industrial plants are closely monitored by authorities for decades and in addition, information on emissions is accessible to the public.

Niskanen and Nieminen (2001) examine the objectivity of listed Finnish firms' environmental disclosures in their annual reports. For this purpose, the authors review the annual reports of 27 listed Finnish firms (12 firms from the forest industry and 15 from other industries) for a 12-year period from 1985 to 1996. In this study, 'objectivity' has been defined as the egalitarian approach of a firm in reporting positive and negative environmental issues relating to its operations. The findings of the study indicate that the

percentage of negative events reported (14.0 percent) in the annual reports of the sampled firms is much smaller than the respective percentage of positive events (83.6 percent). The researchers divide the data collection period into two sub-periods: 1985-1991 and 1992-1996 and discover no mention of any negative environmental issue before 1992. The study reveals further that environmental investments are the most reported positive issue whereas occasional emissions and restrictions set by authorities are rarely disclosed negative issues and most frustratingly, the firms make no disclosure at all on legal actions taken against them concerning their environmental behaviour. In a nutshell, the study suggests that the environmental reporting of listed Finnish firms may not be objective.

In order to examine the relationship between organization types and corporate social responsibility (CSR) reporting, Tuominen et al. (2008) conduct a case study of CSR reporting in Finnish forest industry. The researchers, for this purpose, analyze qualitative data collected in two listed companies in Finnish forest industry namely, Stora Enso and UPM-Kymmene and a co-operative in Finnish forest industry, namely Metsäliitto Cooperative. The shares of Stora Enso are listed in Helsinki, Stockholm and New York stock exchanges and the shares of UPM-Kymmene are listed in Helsinki and New York stock exchanges. The authors collect data from annual reports, CSR reports, environmental responsibility reports and other archival materials during autumn 2006 and autumn 2007 as well as conduct interviews of four managers responsible for CSR in the afore-mentioned firms during the same time-period. The study finds a relationship between organization types and CSR reporting: Metsäliitto Cooperative falls behind the listed firms Stora Enso and UPM-Kymmene in its CSR reporting. Where appropriate, the firms have applied the Global Reporting Initiative guidelines of reporting. The study reveals further that all three case organizations have reported their environmental issues for years. An interesting finding of the study is that through all the case organizations have reported negative news on their environmental impact, only listed firms have reported how they have solved the negative issues; the cooperative falls behind them in this regard.

Kotonen (2009) conducts a cross-sectional study on formal corporate social responsibility (CSR) reporting practices of large Finnish listed companies. The sample of the study includes 31 large Finnish companies listed at OMX Nordic Exchange Helsinki. The author analyzes qualitative data consisting of annual reports and where applicable, formal CSR reports (in 2006) of the sampled companies. The author reports that most of the companies use the Global Reporting Initiative (GRI) guidelines, either strictly or to an appropriate extent. The study finds the CSR system of the companies has paid the most attention towards environmental responsibilities of those companies; companies are found to have reported environmental management, strategy, targets and their implementation, environmental investments, environmental risks and environmental certifications. The companies are also found to have disclosed other environmental themes such as emissions, waste, water and electricity consumption, energy efficiency, bio-energy, raw materials, material flows and transportation, recycling, climate change, economic

safety and ecological footprint indicating that the environmental information reported is both qualitative and quantitative in nature.

Vinnari & Laine (2013) undertake a qualitative field study to examine the factors contributing to the rise and subsequent fall of environmental reporting practices within the Finnish water sector from the late 1990s onwards. The researchers study five water utilities and for the purpose of collecting data, they conduct semi-structured interviews with 18 individuals as well as analyse the annual reports and different types of stand-alone social and environmental reports published by the water utilities under study between 1997 and 2010. They also examine other professional journals and event programmes published in this period (i.e., 1997-2010) with a view to obtaining supplementary insights. The findings of the study reveal that a variety of factors contribute to the diffusion and subsequent decline of environmental reporting practices in the Finnish water sector. The findings unfold that the initial adoption of environmental reporting may be explained from the perspectives of fad and fashion and the subsequent decline of such reporting may be driven by internal organizational factors and a lack of outside pressure<sup>3</sup>.

### 3. SCOPE FOR FUTURE RESEARCH

This review paper identifies at least three gaps in the literature concerning corporate environmental reporting practices in the context of Finland. First, the datasets used in these studies are antiquated; for instance, the most recent study undertaken by Vinnari & Laine (2013) uses a qualitative dataset between 1997 and 2010; on the other hand, Niskala and Pretes (1995) use cross-sectional data of two points in time: 1987 and 1992, whereas Halme & Huse (1997) use cross-sectional data of 1992. Niskanen and Nieminen (2001) analyze panel data from 1985 to 1996. Consequently, it is uncertain whether those datasets could be used to understand the current state of play as regards environmental reporting practices in Finnish companies.

Second, the studies put emphasis on a particular type of companies. For example, the study was undertaken by Niskala and Pretes (1995) samples only environmentally-sensitive companies whereas Halme & Huse (1997) and Kotonen (2009) gather data on large Finnish companies. Niskanen and Nieminen (2001) work with a sample of 27 companies composing of 12 firms from the forest industry and 15 from other industries. Tuominen et al. (2008) conduct a case study of CSR reporting in Finnish forest industry. Vinnari & Laine (2013) conduct a qualitative field study within the Finnish water sector. Therefore, findings of such studies give a snapshot of Finnish firms' environmental reporting practices and may not be generalized across industrial sectors of Finland.

Third, the issues of climate change and changes in biodiversity<sup>4</sup> due to the industrial activities and operations of Finnish firms have not received adequate attention from the researchers in the corporate environmental accounting and reporting field. Climate

change, which is thought to be caused by greenhouse gas (GHG) emissions, is one of the principal environmental risks in today's world (Jones, 2010). Growing concern over the issue of climate change coupled with increasing environmental consciousness in the public has led firms to adopt environment-friendly strategies contributing to the global target of reducing GHG emissions (Giannarakis et al., 2017). Climate is an integral part of ecosystem functioning and climate change has impacted upon ecosystems (e.g., terrestrial and marine ecosystems<sup>5</sup>) and subsequently on human lives (Giannarakis et al., 2017). Finland is already affected by climate change and the effects of such change on weather condition and biodiversity are clearly visible<sup>6</sup>. For example, many Northern and Southern species that are available in Finland are affected by climate change; in winter, many snow and ice-dependent species are at risk of disappearing altogether and in the spring and summer, the probability of forest fires increases due to climate change<sup>6</sup>. Moreover, climate change can also facilitate the spread of foreign species to Finland<sup>6</sup>. Hence, climate change and changes in biodiversity are the two crises that must be tackled together. Consequently, researchers in the field of environmental accounting and reporting are increasingly becoming interested in the issues of climate change and accounting for biodiversity (Giannarakis et al., 2017; Schneider et al., 2014), but such research is surprisingly lacking in the Finnish context.

The afore-mentioned gaps will pave the way for future research that could be conducted in the Finnish context.

### 4. CONCLUSIONS

There is a paucity of research in the area of corporate environmental accounting and reporting in the context of Finland. This paper outlines the studies conducted to date on Finnish firms' environmental reporting practices. The paper adds to the existing literature by identifying a number of research gaps in the literature concerning corporate environmental accounting and reporting practices of Finnish firms. For instance, the datasets used in the previous studies are outdated and hence risk the failure of reflecting the current status of corporate environmental reporting practices in Finland; the findings of the prior investigations may not be generalized across industrial sectors as researchers have paid attention only to a particular type of companies; the last but perhaps the most important research gap exists because of the research negligence towards the impact of Finnish firms' activities and operations on climate change and changes in biodiversity. Hence, the paper has implications for researchers who could contribute to and thereby advance further the literature concerned with environmental accounting and reporting by addressing the lacunae identified herein. This study would also be useful for policy makers as they could use its findings to develop related disclosure requirements for the improvement of corporate environmental reporting practices. The government

<sup>3</sup> Table 2 summarizes the prior Finnish studies.

<sup>4</sup> The term "biodiversity" evolved from "biological diversity" (Schneider et al., 2014). The Convention on Biological Diversity (2003) defines biological diversity (or biodiversity) as: "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems".

<sup>5</sup> World Health Assembly (WHA). (2018). *Climate change and human health. Biodiversity*. Retrieved from the World Wide Web: <http://www.who.int/globalchange/ecosystems/biodiversity/en/>

<sup>6</sup> Ympäristötiedon foorumi. (2018). *Ilmastomuutos haastaa perinteisen luonnonsuojelun*. Retrieved from the World Wide Web: <http://www.ymparistotiedonfoorumi.fi/puheenvuorot/ilmastonmuutos-haastaa-perinteisen-luonnonsuojelun/>

should also take appropriate steps so that Finnish companies could disclose more important information about the natural environment. For example, information relating to GHG emissions, water consumption, energy consumption and production of hazardous waste could be of relevance to various stakeholders.

However, this paper is not without limitations. First, the paper reviewed the environmental reporting practices of Finnish companies only. For broader comparability purpose, the studies on environmental

reporting practices of other Nordic countries could have been reviewed; such review would have provided a greater understanding of the relative position of each Nordic country as far as research on environmental reporting practices is concerned. Second, this study is purely a conceptual one and therefore, it did not perform any statistical analysis. A comprehensive analysis of Finnish data could reveal further the current status of the corporate environmental reporting practices in Finland. These shortcomings could be overcome in Future research.

## REFERENCES

- Adams, C. A. (2002). Internal organizational factors influencing corporate social and ethical reporting: beyond current theorizing. *Accounting, Auditing & Accountability Journal*, 15(2), 223-250. <https://doi.org/10.1108/09513570210418905>
- Ahmed, A. M. (2016). Accounting disclosure of social responsibility by listed companies in Saudi stock market. *Corporate Ownership and Control Journal*, 13(2), 132-144. <https://doi.org/10.22495/cocv13i2p13>
- Akrout, M. M., & Othman, H. B. (2016). Ownership structure and environmental disclosure in Mena emerging countries. *Corporate Ownership & Control*, 13(4-2), 381-388. <http://doi.org/10.22495/cocv13i4c2p9>
- Alotaibi, K., & Hussainey, K. (2016). Quantity versus quality: The value relevance of CSR disclosure of Saudi companies. *Corporate Ownership & Control*, 13(2), 167-179. <https://doi.org/10.22495/cocv13i2p15>
- Bebbington, J., Higgins, C., & Frame, B. (2009). Initiating sustainable development reporting: Evidence from New Zealand. *Accounting, Auditing & Accountability Journal*, 22(4), 588-625. <https://doi.org/10.1108/09513570910955452>
- Beck, U. (1992). *Risk society: Towards modernity*. London: Sage.
- Beck, U. (1999). *World risk society: Towards modernity*. Cambridge: Polity Publications.
- Bowerman, S., & Sharma, U. (2016). The effect of corporate social responsibility disclosures on share prices in Japan and the UK. *Corporate Ownership & Control*, 13(2-1), 202-216. <http://dx.doi.org/10.22495/cocv13i2c1p2>
- Braam, G. J. M., Weerd, L. U. de, Hauck, M., & Huijbregts, M. A. J. (2016). Determinants of corporate environmental reporting: The importance of environmental performance and assurance. *Journal of Cleaner Production*, 129, 724-734. <https://doi.org/10.1016/j.jclepro.2016.03.039>
- Convention on Biological Diversity. (2003). *Article 2. Use of terms*. Retrieved from the World Wide Web: <https://www.cbd.int/convention/articles/default.shtml?a=cbd-02>
- De Villiers, C., & van Standen, C. J. (2006). Can less environmental disclosure have a legitimizing effect? Evidence from Africa. *Accounting, Organizations and Society*, 31(8), 763-781. <https://doi.org/10.1016/j.aos.2006.03.001>
- Decanio, S. J. (1992). International cooperation to avert global warming: Economic growth, carbon pricing and energy efficiency. *The Journal of Environment and Development*, 1(1), 41-62. <https://doi.org/10.1177/107049659200100104>
- Deegan, C., & Blomquist, C. (2006). Stakeholder influence on corporate reporting: An exploration of the interaction between WWF-Australia and the Australian minerals industry. *Accounting, Organizations and Society*, 31(4-5), 343-372. <https://doi.org/10.1016/j.aos.2005.04.001>
- Deegan, C., & Gordon, B. (1996). A study of the environmental disclosure practices of Australian corporations. *Accounting and Business Research*, 26(3), 187-199. <https://doi.org/10.1080/00014788.1996.9729510>
- Deegan, C., Rankin, M., & Tobin, J. (2002). An examination the corporate social and environmental disclosures of BHP form 1983-1997: A test of legitimacy theory. *Accounting, Auditing and Accountability Journal*, 15(3), 312-343. <https://doi.org/10.1108/09513570210435861>
- Ghabayen, M. A., Mohamad, N. R., & Ahmad, N. (2016). Board characteristics and corporate social responsibility disclosure in the Jordanian banks. *Corporate Board: Role, Duties & Composition*, 12(1-1), 84-100. <http://doi.org/10.22495/cbv12i1c1art2>
- Giannarakis, G., Zafeiriou, E., & Sariannidis, N. (2017). The impact of carbon performance on climate change disclosure. *Business Strategy and the Environment*, 26(8), 1078-1094. <https://doi.org/10.1002/bse.1962>
- Guthrie, J., & Farneti, F. (2008). GRI sustainability reporting by Australian public sector organizations. *Public Money & Management*, 28(6), 361-366. <https://doi.org/10.1111/j.1467-9302.2008.00670.x>
- Guthrie, J., & Parker, L. D. (1989). Corporate social reporting: A rebuttal of legitimacy theory. *Accounting and Business Research*, 19(76), 343-352. <https://doi.org/10.1080/00014788.1989.9728863>
- Habbash, M. (2015). Corporate governance, ownership, company structure and environmental disclosure: Evidence from Saudi Arabia. *Journal of Governance and Regulation*, 4(4-4), 460-470. [http://doi.org/10.22495/jgr\\_v4\\_i4\\_c4\\_p3](http://doi.org/10.22495/jgr_v4_i4_c4_p3)
- Halme, M., & Huse, M. (1997). The influence of corporate governance, industry and country factors on environmental reporting. *Scandinavian Journal of Management*, 13(2), 137-157. [https://doi.org/10.1016/S0956-5221\(97\)00002-X](https://doi.org/10.1016/S0956-5221(97)00002-X)
- Hassel, L., Nilsson, H., & Nyquist, S. (2005). The value relevance of environmental performance. *European Accounting Review*, 14(1), 41-61. <https://doi.org/10.1080/0963818042000279722>
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31, 405-440. [https://doi.org/10.1016/S0165-4101\(01\)00018-0](https://doi.org/10.1016/S0165-4101(01)00018-0)
- Jones, M. J. (2010). Accounting for the environment: Towards a theoretical perspective for environmental accounting and reporting. *Accounting Forum*, 34, 123-138. <https://doi.org/10.1016/j.accfor.2010.03.001>

25. Ju Ahmad, N. B., Rashid, A., & Gow, J. (2017). Board meeting frequency and corporate social responsibility (CSR) reporting: Evidence from Malaysia. *Corporate Board: Role, Duties & Composition*, 13(1-1), 87-99. <http://doi.org/10.22495/cbv13i1c1art3>
26. Ju Ahmad, N. B., Rashid, A., & Gow, J. (2017). CEO duality and corporate social responsibility reporting: Evidence from Malaysia. *Corporate Ownership & Control*, 14(2), 69-81. <https://doi.org/10.22495/cocv14i2art7>
27. Kotonen, U. (2009). Formal corporate social responsibility reporting in Finnish listed companies. *Journal of Applied Accounting Research*, 10(3), 176-207. <https://doi.org/10.1108/09675420911006406>
28. KPMG. (2017). *The KPMG Survey of Corporate Responsibility Reporting 2017*. Retrieved from the World Wide Web: [https://home.kpmg.com/content/dam/kpmg/campaigns/csr/pdf/CSR\\_Reporting\\_2017.pdf](https://home.kpmg.com/content/dam/kpmg/campaigns/csr/pdf/CSR_Reporting_2017.pdf)
29. Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *British Accounting Review*, 47(4), 409-424. <https://doi.org/10.1016/j.bar.2014.01.002>
30. Lodhia, S. (2006). The World Wide Web and its potential for corporate environmental communication: A study into present practices in the Australian minerals industry. *The International Journal of Digital Accounting Research*, 6(11), 65-94. [https://doi.org/10.4192/1577-8517-v6\\_3](https://doi.org/10.4192/1577-8517-v6_3)
31. Meng, X. H., Zeng, S. X., Shi, J. J., Qi, G. Y., & Zhang, Z. B. (2014). The relationship between corporate environmental performance and environmental disclosure: An empirical study in China. *Journal of Environmental Management*, 145, 357-367. <https://doi.org/10.1016/j.jenvman.2014.07.009>
32. Modiba, E. M., & Ngwakwe, C. C. (2017). Women on the corporate board of directors and corporate sustainability disclosure. *Corporate Board: Role, Duties & Composition*, 13(2), 32-37. <https://doi.org/10.22495/cbv13i2art3>
33. Mohammed, R. B., Keulortz, J., & Korthals, M. (2009). Reflexive water management in arid regions: The case of Iran. *Environmental Values*, 18(1), 91-112. <https://doi.org/10.3197/096327109X404807>
34. Moneva, J., & Cuellar, B. (2009). The value relevance of financial and non-financial environmental reporting. *Environmental and Resource Economics*, 44(3), 441-456. <https://doi.org/10.1007/s10640-009-9294-4>
35. Morissette, P. M. (1989). The evaluation of policy responses to stratospheric ozone depletion. *Natural Resources Journal*, 29(3), 793-820. Retrieved from the World Wide Web: <http://digitalrepository.unm.edu/nrj/vol29/iss3/9/>
36. Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
37. Naess, A. (1985). Identification as a source of deep ecological attitudes. In M. Tobias (Ed.), *Deep Ecology: Living as if Nature Mattered* (pp. 256-270). San Diego, CA: Avant Books.
38. Niskala, M., & Pretes, M. (1995). Environmental reporting in Finland: A note on the use of annual reports. *Accounting, Organisations and Society*, 20(6), 457-466. [https://doi.org/10.1016/0361-3682\(94\)00032-Q](https://doi.org/10.1016/0361-3682(94)00032-Q)
39. Niskanen, J., & Nieminen, T. (2001). The objectivity of corporate environmental reporting: A study of Finnish listed firms' environmental disclosures. *Business Strategy and the Environment*, 10(1), 29-37. [https://doi.org/10.1002/1099-0836\(200101/02\)10:1<29::AID-BSE268>3.0.CO;2-D](https://doi.org/10.1002/1099-0836(200101/02)10:1<29::AID-BSE268>3.0.CO;2-D)
40. O'Donovan, G. (2002). Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing and Accountability Journal*, 15(3), 344-371. <https://doi.org/10.1108/09513570210435870>
41. Owen, D. (2008). Chronicles of wasted time? A personal reflection on the current state of, and future prospects for, social and environmental accounting research. *Accounting, Auditing & Accountability Journal*, 21(2), 240-267. <https://doi.org/10.1108/09513570810854428>
42. Parker, L. D. (2005). Social and environmental accountability research, a view from the commentary box. *Accounting, Auditing & Accountability Journal*, 18(6), 842-860. <https://doi.org/10.1108/09513570510627739>
43. Pretty, J. N. (1990). Agricultural pollution: From costs and causes to sustainable practices. In D. J. R. Angell, J. D. Comer, & M. L. N. Wilkinson (Eds.), *Sustaining Earth: Response to the Environmental Threat* (pp. 60-70). London: Macmillan. [https://doi.org/10.1007/978-1-349-21091-6\\_6](https://doi.org/10.1007/978-1-349-21091-6_6)
44. Regens, J. L., & Rycroft, R. W. (1988). *The acid rain controversy*. Pittsburg, PA: University of Pittsburg Press.
45. Rolston, H. III. (1985). Valuing wildlands. *Environmental Ethics*, 7(1), 23-48. <https://doi.org/10.5840/enviroethics19857111>
46. Sahay, A. (2004). Environmental reporting by Indian corporations. *Corporate Social Responsibility and Environmental Management*, 11(1), 12-22. <https://doi.org/10.1002/csr.51>
47. Schneider, A., Samkin, G., & Howard Davey, H. (2014). Biodiversity reporting by New Zealand local authorities: The current state of play. *Sustainability Accounting, Management and Policy Journal*, 5(4), 425-456. <https://doi.org/10.1108/SAMPJ-10-2013-0043>
48. Testarmata, S., Fortuna, F., & Ciaburri, M. (2018). The communication of corporate social responsibility practices through social media channels. *Corporate Board: Role, Duties & Composition*, 14(1), 34-49. <https://doi.org/10.22495/cbv14i1art3>
49. Tuominen, P., Uski, T., Jussila, I., & Kotonen, U. (2008). Organization types and corporate social responsibility reporting in Finnish forest industry. *Social Responsibility Journal*, 4(4), 474-490. <https://doi.org/10.1108/17471110810909885>
50. Vinnari, E., & Laine, M. (2013). Just a passing fad? The diffusion and decline of environmental reporting in the Finnish water sector. *Accounting, Auditing & Accountability Journal*, 26(7), 1107-1134. <https://doi.org/10.1108/AAAJ-04-2012-01002>
51. Yaseen, H., Al-Amarneh, A., & Iskandrani, M. (2018). Board diversity and social responsibility: The case of Jordanian commercial banks. *Corporate Ownership & Control*, 15(2-1), 139-147. <http://doi.org/10.22495/cocv15i2c1p1>

## APPENDIX

Table 1. Summary of the notable studies on corporate social and environmental reporting practices (Part I)

<i>Author, year of publication &amp; type of research</i>	<i>Country of data collection</i>	<i>Period of data collection</i>	<i>Summary of key findings</i>
Adams (2002) qualitative (interview-based).	UK & Germany (3 British and 4 German companies).	1998	Internal contextual variables such as the aspects of reporting process and attitudes, its impacts, legislation and audits are likely to impact on the extensiveness, quality, quantity and completeness of reporting.
Ahmed (2016), quantitative study (based on questionnaire survey).	Saudi Arabia (150 participants from the companies listed on the Saudi Stock Exchange)	Not applicable	There are significant differences between the commitment of Saudi companies concerning their disclosure of social responsibility and sustainable development practices.
Ahmad et al. (2017), quantitative analysis of panel data.	Malaysia (450 companies listed on Bursa Malaysia)	2008-2013	Board meeting frequency is not associated with corporate social responsibility (CSR) reporting.
Ahmad et al. (2017), quantitative study (based on content analysis of corporate annual reports).	Malaysia (450 companies listed on Bursa Malaysia)	2008-2013	CEO duality is not associated with CSR reporting. In addition, CEOs are not interested to promote CSR.
Akrout & Othman (2016), quantitative study (based on content analysis of corporate annual reports).	The Middle East and North Africa (143 listed companies in 10 Middle Eastern and North African countries)	2010-2012	Family ownership and environmental disclosures are negatively linked.
Alotaibi & Hussainey (2016), quantitative study.	Saudi Arabia (171 non-financial companies listed on the Saudi Stock Exchange)	2013-2014	Both quality and quantity of CSR disclosure are significantly associated with the firm value measured by market capitalization but when Tobin's Q and return on assets are used as proxies of firm value, no significant relationship is found among them and CSR disclosure quantity and quality.
Bebbington et al. (2009), qualitative (interview-based).	New Zealand (6 companies).	2003	Organizations choose to engage in sustainable development reporting because such engagement has come to be an accepted part of pursuing a differentiation strategy and offers some contribution to existing business challenges and organizations value the rewards it offers.
Deegan & Blomquist (2006), case study (interview-based).	Australia	Not mentioned	Lobby groups have an influence on corporate disclosure policies. The initiative of the case organization WWF-Australia, an environmental organization, influenced the environmental reporting behaviour of individual mining companies.
Deegan & Gordon (1996), quantitative (content analysis and questionnaire).	Australia (197 firms).	1980-1991	Firms, being self-laudatory in their disclosure practices, have a low level of voluntary environmental disclosures; firms disclose positive news about their environmental performance and suppress negative news. Environmental disclosures increase during the period 1988 to 1991. The level of corporate environmental disclosures is positively correlated with both environmental sensitivity and firm size.
Deegan et al. (2002) quantitative (content analysis).	Australia (40 companies; 20 companies that were prosecuted for breach of various environmental protection laws and 20 companies that were not prosecuted).	1990-1993	Both prosecuted and non-prosecuted firms are reluctant to disclose negative news about their environmental performance within their annual reports. The prosecuted firms provided significantly more positive environmental disclosures than non-prosecuted firms; the plausible explanation thereof may be the belief of the prosecuted firms that there is a need to legitimize the existence of their operations, the legitimization endeavour taking the form of increased disclosure of positive environmental news.
De Villiers & van Standen (2006) descriptive (based on content analysis of corporate annual reports).	South Africa (140 companies listed on the Johannesburg Securities Exchange (JSE)).	1994-2002	The disclosure of environmental information increased from 1994 to 1999, thereafter it decreased until 2002.
Ghabayen et al. (2016), quantitative study (based on content analysis of 147 annual reports of Jordanian banks).	Jordan (listed banks in Jordan)	2004-2013	The level of CSR disclosure is positively associated with the board size. On the contrary, the CSR disclosure is negatively linked with the proportion of independent directors, institutional directors and the existence of female directors on the board.
Guthrie & Farneti (2008), descriptive (based on content analysis of the annual reports and sustainability reports of the selected public organizations).	7 Australian public organizations.	2005/2006	Sampled organizations applied the GRI indicators fragmentarily. They "cherry-picked" the GRI indicators they wanted to disclose. Disclosures were generally non-monetary and narrative in nature.

**Table 1.** Summary of the notable studies on corporate social and environmental reporting practices (Part II)

<i>Author, year of publication &amp; type of research</i>	<i>Country of data collection</i>	<i>Period of data collection</i>	<i>Summary of key findings</i>
Guthrie & Parker (1989), descriptive (historical and content analysis research methods).	Broken Hill Proprietary Company Ltd. (BHP), one of Australia's largest companies (engaged in the steel sector).	One hundred years (from 1885 onwards).	No support is found for legitimacy theory as the primary explanation for corporate social and environmental reporting.
Habbash (2015), quantitative study (based on content analysis of corporate annual reports).	Saudi Arabia (all firms listed on the Saudi Stock Exchange)	2007-2011	Following the application of the Saudi 2006 corporate governance (CG) code, the average environmental disclosure (ED) has improved. The level of ED is positively affected by audit committee effectiveness, role duality, state and institutional ownership, firm profitability and industry sensitivity. On the contrary, there is a negative linkage between ED and firm leverage. Board independence, family ownership and firm size do not have a significant effect on the level of ED.
Modiba & Ngwakwe (2017), quantitative analysis of panel data.	South Africa (5 companies listed on the Johannesburg Stock Exchange)	2010-2014	There is a positive correlation between the number of women on the board of directors and sustainability disclosure on social investment and energy consumption.
O'Donovan (2002), qualitative (interview-based).	3 Australian public organizations.	Not mentioned	Legitimacy theory has been found to be an explanation for corporate environmental reporting.
Testarmata et al. (2018), descriptive study.	Italy (40 largest companies listed on the "Mercato Telematico Azionario" of the Italian Stock Exchange "Borsa Italiana")	2014	The largest Italian companies use social media channels to disseminate CSR practices.
Yaseen et al. (2018), quantitative analysis.	Jordan (13 Jordanian commercial banks listed on Amman Stock Exchange)	2005-2014	Board size, gender, nationality and education diversity in the boardroom, the age of directors and independence of board members are positively associated with CSR performance of the sample banks. On the other hand, there is a negative linkage between the existence of institution's representatives in the boardroom and the CSR performance.

**Table 2.** Summary of the existing studies in the context of Finland

<i>Author(s)</i>	<i>Year of publication</i>	<i>Sample period</i>	<i>Key findings</i>
Niskala & Pretes	1995	1987 & 1992	The environmental reporting of Finnish firms is less common compared to other European countries; nevertheless, the environmental disclosure level has significantly increased from 1987 to 1992.
Halme & Huse	1997	1992	Industry is the most influential factor in explaining the level of environmental disclosure in corporate annual reports. Finnish firms are less attentive to the environment than Norwegian and Swedish firms.
Niskanen & Nieminen	2001	1985 to 1996	The environmental reporting of listed Finnish firms is not objective.
Tuominen et al.	2008	2006 & 2007	The case cooperative falls behind the case listed firms in its environmental reporting.
Kotonen	2009	2006	The corporate social responsibility system of the companies has paid the most attention towards environmental responsibilities of those companies and the environmental information reported is both qualitative and quantitative in nature.
Vinnari & Laine	2013	1997 to 2010	The initial adoption of environmental reporting may be explained from the perspectives of fad and fashion and the subsequent decline of such reporting may be driven by internal organizational factors and a lack of outside pressure.