Environmental Reporting and Firm Profitability

Evidence From Sri Lanka

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1 Background of the Study

- The main objective of environmental reporting is to generate information in an honest and impartial manner, considering the interests of the entire community (Tanc and Gokoglan, 2015).

- Organisations including public listed companies, are unable to fulfill their production goal without using natural resources such as air, minerals, water, power and fuel in their production and operational activities.

- Thus, business organisations realize that they have a greater responsibility and accountability to society and therefore, they follow environmental reporting practices in communicating how they are environmentally responsible.

1 Background of the Study

- The need for environmental disclosure has increased dramatically as stakeholders' interests have shifted from traditional aspects to environmental issues (Emeka-Nwokeji & Benjamin, 2019).

- Therefore, by disclosing environmental management practices, organisations can control and prevent externalities arising from environmental issues (Molina-Azorín et al., 2009).

- As a result, environmental reporting brings organisations high investor confidence, better relationships with parties such as government, NGOs and other related parties, increased employee commitment, new market opportunities, and public awareness (Anura and Sebastian, 2017).

2 Literature review - Gaps

- Topics of environmental accounting and reporting have received substantial interest from academic researchers for the past three decades (Rajapakse, 2003; Surman & Kaya, 2003; Thompson & Zakarai, 2004; O'Donovan & Gibson 2000). However, The results of different studies measuring the relationship between corporate financial performance and environmental disclosure show mixed results.

- Several researchers used profitability and corporate financial performance as explanatory variables for differences in disclosure level. As such, the prior literature on environmental reporting focuses on the determinants of such disclosures and the motives behind environmental reporting. However, there is a lack of specific studies regarding Corporate Environmental Disclosures both in developed and developing countries.

2 Literature review - Gaps

- Therefore, the relationship between corporate environmental disclosure and corporate financial performance is arguably one of the most controversial issues yet to be solved. Some scholars argue that there are additional costs associated with environmental disclosure and the profitability of the reporting company is depressed.

2 Literature review - Gaps

- Most of the prior studies concentrated on developed countries and very few studies focused on developing countries such as Sri Lanka. It has also been argued that corporate social and environmental disclosure may not apply universally to all countries which are in various stages of economic development and with corporations having differing levels of awareness and attitudes towards corporate environmental disclosure.

- Further, the studies analyzing the effect of some selected independent variables, such as biodiversity, on firm profitability were scarce in emerging economies. Haque and Jones (2020) identified biodiversity as an emerging area, and therefore, it is in the early stages. Hassan *et al*. (2020) and the UN (2020) revealed that pandemics such as Covid-19 are due to biodiversity loss and habitat destruction.

3 Research Questions

1. Do disclosures on materials, energy, and water impact firms' profitability?
2. Do bio-diversity disclosures impact firms' profitability?
3. Do disclosures on emissions, effluents, and waste impact firms' profitability?
4. Do disclosures on products & services, compliance, transport, overall supplier assessment, and environment grievance mechanisms impact firms' profitability?

4 Contribution

- Given the paucity of empirical literature examining the impact of environmental reporting in different environmental perspectives and disclosures , our study paves the way for companies to analyse the impact of environmental reporting in different environmental perspectives and disclosures on the financial performance of listed corporates in Sri Lanka.

- Shareholders are benefitted from our study as they are in a better position to make judgments on their investments with the emergence of environmental issues such as global warming and climate change.

- Especially shareholders who prefer to invest more in environmentally friendly companies than in traditional profit-oriented companies are aided in their portfolio selection.

4 Contribution

- Our study attempts to convince businesses, regulators and other practitioners to integrate environmental reporting into their business strategies and make awareness of robust environmental reporting in boosting companies' financial performance.

5 Research Context

- Sri Lanka faces many environmental issues including land degradation, pollution, improper management of water resources, and decrease in biodiversity, coastal erosion, and improper management of industrial waste and social issues, including poverty, malnutrition, poor work-place ethics and violation of human rights.

- The challenge for Sri Lanka is to bring the economy back to normalcy and achieve high economic growth without damaging the environment or creating unfavorable social consequences.

- There is an increasing demand from stakeholders for information on environmental management and sustainable development in Sri Lanka by way of environmental reporting.

6 Methodology

Research Approach: Quantitative Approach

Population : All listed companies (298) on the CSE

Sample: 50 companies listed on CSE based on the market capitalisation and companies produce environmental-related disclosures in their annual reports for F/Y 2015 - 2019.

Data Collection Method: Published Annual Reports

Data Analysis Technique: Regression Analysis
Descriptive Statistics
Correlation Analysis

7 Conceptual Framework

Environmental disclosures – GRI G4 guidelines

E 1:Materials, energy and water
E2: Biodiversity
E3: Emissions, effluents and waste
E4: products and services, compliance, transport, overall, supplier environment assessment and environment grievance mechanisms

Control Variable

Firm size

Firms' profitability

ROA

8 Measurement of Variables

- The content analysis method is employed to measure environmental disclosures using GRI (G4) reporting framework.
- Researchers have commonly used the technique of content analysis to analyse the content of the disclosures systematically, reliably and objectively (Krippendorff, 1980; Guthrie and Parker, 1990). This technique is considered empirically valid in the SER (social and environmental reporting) related studies (Guthrie and Parker, 1990; Hackston and Milne, 1996).
- To carry out the task of content analysis, it is important to select the unit of analysis (i.e. basis of coding). Previously, researchers have used sentences (Deegan and Gordon, 1996), paragraphs (Guthrie et al., 2004) and portions of pages (Unerman, 2000) and words (Ze´ghal and Ahmed, 1990) as the basis of coding. However, the GRI reporting framework provides a list of items that are used as a unit of analysis in the present context to measure sustainability reporting (GRI, 2011; Burhan and Rahmanti, 2012; Chen et al., 2015; Hussain, 2015).

8 Measurement of Variables

For measuring the environmental disclosure score, GRI framework is found to be the most appropriate framework, as most of the sample firms have used GRI framework to report their respective disclosures.

According to Marimon et al. (2012), GRI framework provides the most reliable framework for analysing the social and environmental disclosures of the firm.

Most of the previous studies have used the binary coding system of content analysis (i.e. “0” and “1”) to measure social and environmental disclosures (Burhan and Rahmanti, 2012; Jones et al., 2007; Hussain, 2015).

This system of content analysis identifies the presence (“1”) or absence (“0”) of pre-specified items in the published report. Following these researchers, the binary coding system of content analysis is used in the present context. A score of “0” denotes a non-disclosure and “1” for the disclosure of item.

9 Model development

$$ROA = \beta + \beta1\ (E1) + \beta2\ (E2) + \beta3\ (E3) + \beta4\ (E4) + \beta5\ (SIZE) + e$$

E1 : Materials, Energy and Water aspects (Independent Variable)

E2 : Biodiversity aspect (Independent Variable)

E3 : Emissions, Effluents and Waste aspects (Independent Variable)

E4 : other aspects (Independent Variable)

SIZE : Firm Size (Control Variable)

ROA : Return on Assets (Dependent Variable)

10 Data analysis

	ROA	E1	E2	E3	E4	FIRM SIZE
Mean	0.072040	0.424780	0.215987	0.312000	0.514000	15.93347
Median	0.060421	0.400000	0.000000	0.330000	0.500000	15.86260
Maximum	0.370108	0.901000	1.000000	0.833333	1.000000	18.76890
Minimum	-0.082816	0.000000	0.000000	0.000000	0.000000	13.16512
Std. Dev.	0.068409	0.239518	0.291954	0.222214	0.262831	1.130651
Skewness	1.463819	0.067903	1.177722	0.268087	0.116774	0.069982
Kurtosis	6.972396	2.405476	3.405464	2.273261	2.809686	2.740571
Observations	250	250	250	250	250	250

10 Data analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.631857	0.250932	2.518043	0.0126
E1	0.050518	0.023017	2.194812	0.0294
E2	0.018412	0.024122	0.763305	0.4462
E3	0.089586	0.019649	4.559353	0.0000
E4	0.075577	0.025326	-2.984187	0.0032
FIRM_SIZE	-0.036047	0.015799	-2.281638	0.0236

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.686253	Mean dependent var	0.072040
Adjusted R-squared	0.599369	S.D. dependent var	0.068409
S.E. of regression	0.043300	Akaike info criterion	-3.249796
Sum squared resid	0.365601	Schwarz criterion	-2.475074
Log likelihood	461.2245	Hannan-Quinn criter.	-2.937993
F-statistic	7.898521	Durbin-Watson stat	2.008966
Prob(F-statistic)	0.000000		

11 Findings

H1 ✓ There is a statistically significant positive impact of (E1) Materials, Energy and Water related disclosures on Return on Assets.

H2 ✗ There is no statistically significant impact of (E2) Biodiversity related disclosures on Return on Assets.

H3 ✓ There is a statistically significant positive impact of (E3) Emission, Effluent and Waste related disclosures on Return on Assets.

H4 ✓ There is a statistically significant positive impact of (E4) other disclosures -Products and Services, Compliance, Transport, Overall, Supplier Environment Assessment, Environment Grievance Mechanisms on Return on Assets.

12 Conclusion, Limitations and Suggestions

- Our study concludes that environmental reporting significantly impact on the financial performance of public listed companies in Sri Lanka.

- Further, reporting on materials, energy & water aspects, emissions, effluents & waste aspects, products & services, compliance, transport, overall, supplier environment assessment and environment grievance mechanisms significantly and positively impact on financial performance of public listed companies in Sri Lanka.

- Society expects more health and safety products, ecofriendly projects and good employee welfare from corporates. Having identified the importance of these factors, government has also imposed rules and regulations for the benefit of the society at large. Hence, companies are motivated to comply with those environmental reporting and related disclosure.

12 Conclusion, Limitations and suggestions

- Environmental disclosures are calculated using the technique of content analysis based on GRI reporting framework. Although GRI framework is widely accepted, it may not be sufficient for all the companies belonging to different industries. Future studies could consider various internationally recognise frameworks like Carbon Disclosure Project along with the GRI framework.
- In the present study, only the extent of reporting is considered. However, the quality of disclosure also plays a key role in decision-making. Therefore, future studies should consider both the extent and quality of disclosure for a better assessment of environmental related disclosure.

THANK YOU!