International Journal of Business Management and Finance Research
Volume 8, Issue 4, pp. 16-24
2025

Factors Influencing Environmental Disclosure by Major Japanese Companies

Ruiyan Zhao: *Graduate School of Media and Governance, Keio University, Fujisawa City, Japan.*
E-mail: z021ruiy.saku@gmail.com

Zhiying Zhao: *Graduate School of Media and Governance, Keio University, Fujisawa City, Japan.*
E-mail: zhiying_zhao1995@keio.jp

Rajib Shaw: *Graduate School of Media and Governance, Keio University, Fujisawa City, Japan.*
E-mail: shaw@sfc.keio.ac.jp

ABSTRACT: *This study examines the factors influencing environmental disclosure among major Japanese companies. Focusing on listed companies in Japan, this research investigates the influence of various corporate governance, financial, and strategic factors on environmental disclosure. Utilizing a logistic regression model, the study analyzes the extent to which return on equity (ROE), net profit margin (NPM), firm size, and the presence of an environmental management system (EMS), among others, determine environmental disclosure practices. The findings indicate that larger firms and those with established EMS are more likely to disclose more environmentally relevant information. The research provides valuable insights for stakeholders and policymakers on enhancing environmental transparency in corporate Japan. This study contributes to the existing body of knowledge by providing a multidimensional analysis of environmental disclosure.*

Key Words: *Environmental disclosure, ESG disclosure, financial performance, legitimacy theory, stakeholder theory.*

1. Introduction

Environmental disclosures are crucial elements of social responsibility reporting, encompassing an organization's interactions with its natural and social environment (Deegan & Gordon, 2014). Investors and consumers utilize ESG reports to assess a company's alignment with their values and to screen investments based on ESG factors. With rising attention to environmental issues, Sustainable Development Goals (SDGs), and carbon neutrality, stakeholders increasingly demand comprehensive corporate environmental disclosure. In Japan, environmental reporting involves companies informing stakeholders about the direct and indirect impacts of their operations on the environment, both positive and negative (Ministry of the Environment, n.d.). Various disclosure methods, such as annual reports, integrated reports, sustainability reports, and environmental, social, and corporate governance reports, fulfill companies' responsibility to manage natural resources wisely and foster environmental dialogue between society and business. In essence, environmental disclosure is a vital aspect of corporate social responsibility and ESG reporting, facilitating effective communication of companies' environmental impacts and sustainability endeavors.

2. Determinants of Environmental Disclosure

Environmental disclosure plays a crucial role in promoting transparency, accountability and sustainability in organizations and industries. Determining environmental disclosure involves assessing the extent to which

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

companies provide accurate, relevant and timely information about their environmental impacts, risks and initiatives. There are many factors that influence such disclosures, ranging from regulatory requirements and industry standards to an organization's internal policies, culture and commitment to sustainable development. In this context, understanding the determinants of environmental disclosure is critical for both companies aiming to improve environmental transparency and stakeholders seeking to make informed decisions and drive positive environmental outcomes. This paper explores the key factors influencing environmental disclosure and their significance in shaping the broader landscape of corporate environmental responsibility. This study aims to identify the factors affecting environmental disclosure of listed companies in Japan and examines the correlation between ROE, NPM, firm size, CG, EMS, OC, and industry type with environmental disclosure through logistic regression.

2.1. ROE

ROE (Return on Equity) is a crucial financial metric, providing insights into a company's ability to create value using its own capital. Beyond shareholder interests, companies should consider a broader stakeholder perspective, including the community, government, and investors. Profitable companies have a greater incentive for environmental disclosure, as suggested by George (2013), indicating a positive correlation between profitability and environmental disclosure. Aulia and Agustina (2015) support this, highlighting that high profits motivate firms to disclose more environmental information. The study by Wahyuningrum and Budihardjo (2018) further confirms the positive effect of ROE on environmental information disclosure. Additionally, Giannarakis (2014) and Marwanti and Yulianti (2015) demonstrate the positive impact of firms' profitability on their social responsibility disclosure. Therefore, we propose the following hypothesis:

Hypothesis 1: ROE has a significant positive effect on environmental disclosure.

2.2. NPM

High Net Profit Margin (NPM) symbolizes lucrative profits and provides the company with sufficient funds to meet the needs of its stakeholders. According to stakeholder theory, a company must attend to and satisfy the needs of all stakeholders, one of which is disclosure of environmental information. Good financial performance enhances a company's financial strength and enables it to release more detailed and better environmental information. Conversely, efforts to disclose environmental information may further exacerbate a company's financial woes if it is in poor financial condition. Studies by Ahmadi & Bouri (2017) as well as Ismail et al. (2018) indicate that profitability has a positive impact on environmental information disclosure. However, the findings of Istiqomah and Wahyuningrum (2020) show that NPM has a significant negative impact on environmental disclosure. In order to explore the relationship between NPM and environmental disclosure in depth, we propose the following hypotheses:

Hypothesis 2. NPM has a significant positive effect on environmental disclosure.

2.3. Firm Size

Large corporations, because of their special position, tend to face greater political and regulatory pressure from external interest groups. In addition, large organizations tend to use formal channels of information exchange, such as environmental reporting, in order to disclose information about their activities, as can be seen in the study by Cowen et al. in 1987. Many studies, such as those of George（2013), Ohidoa et al. (2016), Ahmadi & Bouri (2017), Ismail et al. (2018), Wahyuningrum & Budihardjo (2018) and Istiqomah & Wahyuningrum (2020) have shown that the size of the organization has a positive effect on environmental information disclosure. Therefore, we propose the following hypothesis:

Hypothesis 3. Firm size has a significant positive effect on environmental disclosure.

2.4. CG (Corporate Governance)

The presence of independent directors as a proportion of the board of directors can make the company more attentive to the needs of its stakeholders, such as the need for environmental information. This is because independent directors are not controlled by the company's management or any particular interest group, and they are more concerned with the long-term value and sustainability of the company. A study by Rao et al. (2012) found that the proportion of independent directors had a significant positive effect on the

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

company's environmental reporting. This finding is consistent with the findings of Sari & Marsono (2013). Therefore, we propose the following hypothesis:

Hypothesis 4. Corporate governance mechanism has a significant positive effect on environmental disclosure.

2.5. EMS (Environmental Management System)

An Environmental Management System (EMS) is a structured framework that ensures that an organization properly manages its significant impact on the environment. By implementing an EMS, companies can follow a clear framework for environmental management and thus increase the transparency of environmental information. This coincides with stakeholder theory, which states that entities must satisfy the interests of their stakeholders, including the community. The ISO 14001 environmental management system, for example, has a profound impact on environmental management and corporate sustainability (Hannouche et al., 2014).The findings of Rahmawati & Budiwati (2018) indicate that environmental management systems have a significant positive impact on the disclosure of environmental information. We propose the following hypothesis:

Hypothesis 5. EMS (Environmental Management System) has a significant positive effect on environmental disclosure.

2.6. OC (Ownership Consentration)

Studies have shown that when ownership is spread over a large number of investors, some of them are particularly concerned about the company's impact on the environment. This situation may create additional pressure for voluntary disclosure. The research of Cullen and Christopher (2002) supports this view, particularly with regard to environmental disclosure. If ownership is too fragmented, it may lead to a significant information asymmetry between the company and its shareholders over time. In this case, investors may have a serious negative reaction to the company if the disclosure is not adequate. Therefore, based on the pressure to provide detailed and reliable information, we propose the following hypothesis:

Hypothesis 6. Firms with more concentrated share ownership are more inclined to disclose environmental information.

2.7. TYPE (Industry Type)

There are significant differences between industries in terms of the impact they have on the environment, the visibility of environmental problems, and the intensity and type of regulatory intervention. There is a large body of literature showing that industries such as metals, resources, paper and pulp, power production, water treatment, and chemicals are all associated with significant environmental problems (Bowen, 2000; Hoffman, 1999). However, a number of other industries, particularly the emerging manufacturing and service industries, are relatively less environmentally damaging and have fewer obvious environmental problems associated with them. As a result, companies in these industries may not face as much pressure related to environmental protection as the former. This may explain why they are relatively less active in environmental disclosure. Therefore, we propose the following hypothesis:

Hypothesis 7. Industries associated with visible environmental issues are more inclined to disclose environmental information.

3. Research Methods

This study is a quantitative study combining both primary and secondary data. The population of the study is 1,839 Japanese companies listed on the Tokyo Stock Exchange, all of which were included in the Prime Market during the period from April 2022 to April 2023.The study used a purposive sampling technique, resulting in the selection of a sample of 99 companies, which served as the basis for the analyses.

3.1. Sampling Criteria

The sample selection process (Table 1) involved meticulous screening of 1,839 companies listed on the Tokyo Stock Exchange (TSE) Prime Market within April 2022 to April 2023. Focusing exclusively on Japanese companies reduced the pool to 1,838 firms. Identifying the top 100 companies by market capitalization from the TSE Prime Market standings on the STRAINER website as of June 2023 further

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

refined the sample. The final criterion for inclusion was adherence to internationally recognized reporting frameworks, specifically the Global Reporting Initiative (GRI) or Task Force on Climate-related Financial Disclosures (TCFD) standards for environmental information disclosure. Applying these criteria resulted in a consolidated sample of 99 companies, forming the research units of analysis.

Table 1. Selection Criteria for Sample Companies.

No.	Criteria	Beyond Criteria	Included Criteria
1.	Companies listed on the TSE and are included in the Prime Market of the period 2022.4~2023.4		1,839
2.	Japanese companies listed on the TSE Prime Market	(1)	1,838
3.	Top 100 companies with the largest market capitalization in the Prime Market of the TSE (as of June 2023)	(1,738)	100
4.	Companies make environmental disclosures in accordance with GRI Standards or TCFD recommendations	(1)	99
	Total Sample Companies		99
	Total Analysis Units		99

3.2. Operational Definition of Variable

In this study, the five dimensions of environmental disclosure is considered as the dependent variable, while financial indicators represented by ROE (Return on Equity) and NPM (Net Profit Margin), as well as Firm Size, Corporate Governance (CG), Environmental Management System (EMS), Ownership Concentration (OC), and Type of Industry (TYPE) are considered as independent variables. The operational definitions of these variables in this study are shown in Table 2.

Table 2. Operational Definition of Variable.

Varibles	Definition	Indicators
ED (Environmental Disclosure)	Consists of five dimensions: POLICY, INITIATIVE, IMPROVE, AUDIT, and TARGET (Stephen et al., 2008)	1 = if disclosing POLICY / INITIATIVE / IMPROVE /AUDIT / TARGET 0 = if not disclosing POLICY / INITIATIVE / IMPROVE /AUDIT / TARGET (Stephen et al., 2008)
ROE (Return on Equity)	Indicators of corporate financial performance in generating profits using its own capital (Lampe, 2013)	$\frac{net\ income}{shareholders'equity} \times 100\%$ (Buallay, 2019; Lampe, 2013)
NPM (Net Profit Margin)	Profitability ratio to calculate net profit margin of a company (Liu et al., 2013)	$\frac{net\ income}{net\ sales} \times 100\%$ (Liu et al., 2013)
Firm Size	Large or small size of a company (Irawati, 2012)	LN (Total Asset) (Dang et al., 2018)
CG (Corporate Governance)	Governance mechanism in companies (Damak, 2013)	$\frac{outside\ auditor}{total\ auditor} \times 100\%$
EMS (Environmental Management System)	The system of structures and procedures of organisations (Ministry of the Environment, n.d.)	1 = if having EMS 0 = if not having EMS (Ismail et al., 2018)
OC (Ownership Concentration)	Employ the aggregate share ofownership accounted for by significant shareholdings (Stephen et al., 2008)	$\frac{major\ shareholders'share}{total\ shares\ issued} \times 100\%$
TYPE (Industry Type)	Industry type based on its sensitivity to the environment (Djajadikerta & Trireksani, 2012)	1 = high profile 0 = low profile (Wahyuningrum & Budihardjo, 2018)

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

The environmental disclosure was assessed using Stephen et al.'s (2008) five-point scale, which categorizes environmental disclosure into five dimensions: policy (POLICY), action (INITIATIVE), improvement (IMPROVE), auditing (AUDIT), and target (TARGET). The scale divides environmental disclosure into five dimensions: POLICY, INITIATIVE, IMPROVE, AUDIT and TARGET. If the company's sustainability report or official website contains disclosures related to these five dimensions, it is scored as "1", otherwise it is scored as "0".

3.3. Model and Estimation Method

The regression model presented aims to evaluate environmental disclosure (ED) by examining the influence of various financial and governance metrics. The dependent variable, 'ED', is regressed against independent variables including Return on Equity (ROE), Net Profit Margin (NPM), firm size, Corporate Governance (CG), Environmental Management Systems (EMS), Ownership Concentration (OC), and Type of Industry (TYPE). Each variable is assigned a beta coefficient (β1, β2, ..., β7) representing its potential impact on environmental disclosure, with ε being the error term of the model.

$$\mathrm{ED} = \beta_0 + \beta_1 \mathrm{ROE} + \beta_2 \mathrm{NPM} + \beta_3 \mathrm{Firm\ size} + \beta_4 \mathrm{CG} + \beta_5 \mathrm{EMS} + \beta_6 \mathrm{OC} + \beta_7 \mathrm{TYPE} + \varepsilon$$

In this study, Logit regression is employed to investigate the determinants affecting environmental disclosure among listed companies in Japan. This method is particularly beneficial for modeling the probability of occurrence of an event by fitting data to a logistic curve. It is apt for scenarios where the dependent variable is dichotomous, as in the case of companies either disclosing (1) or not disclosing (0) environmental information. The use of logistic regression is warranted over Ordinary Least Squares (OLS) regression because OLS assumes a linear relationship and is less robust when the dependent variable is categorical, which can lead to model mis-specification and biased estimates in such contexts. Hence, logistic regression is more suitable for predicting binary outcomes and providing more reliable, interpretable coefficients for the independent variables in our study.

4. Results of Logit Regression

The logistic regression results depicted in the table offer a comprehensive overview of the factors influencing environmental disclosure among Japanese listed companies. The model demonstrates a varying degree of predictive power, with the percentage of correct predictions for each environmental disclosure category ranging notably. This suggests that certain aspects of corporate performance and governance attributes, as represented by the independent variables, have differential predictive capabilities regarding environmental disclosure practices. The overall model's efficacy is evidenced by a high percentage of correctly predicted cases, indicating robustness in the theoretical underpinnings and the chosen variables' ability to explain the disclosure behavior of firms within the study's context.

Table 3. Results of the Logit Regression.

Variable	Dependent variable				
	POLICY	INITIATIVE	IMPROVE	AUDIT	TARGET
Constant	-12.1806	-29.99959	-7.6590	-37.13813 ***	-53.1938
ROE (Return on Equity)	1.8525	7.07937	-3.2034	7.15957	-62.6129 *
NPM (Net Profit Margin)	0.8678	-8.93682 ***	-2.6529	0.08579	-0.1357
Firm Size	0.5251	1.84614 **	0.4384	1.30886 ***	2.0264
CG (Corporate Governance)	-4.7918	-14.96944 *	-1.0532	-0.21512	-23.9231
EMS (Environmental Management System)	1.4868	-3.26494	0.6008	2.28075 **	11.0704 *
OC (Ownership Concentration)	2.5282	-9.90164 **	-0.9332	1.04384	29.4150 *
TYPE (Industry Type)	1.1662	0.09203	0.5752	-1.93911	7.7535
Number of observations	99	99	99	99	99
% correctly predicted	97%	94%	63%	86%	99%

Note: *, **, *** denote significance at the 90%, 95% and 99% level of confidence, respectively.

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

4.1. Effect of ROE on Environmental Disclosure

In the Logit regression results, there is a significant negative correlation between ROE and the "TARGET" variable of environmental disclosure at the 90% confidence level, as indicated by the asterisk (p=0.0700). The negative correlation between ROE and TARGET for Japanese firms may be attributed to a cultural tendency towards high levels of environmental disclosure regardless of profitability. This tendency for companies with lower returns on equity to still make substantial environmental disclosures suggests that the need for disclosure may be driven by factors other than financial performance. The Japanese environment places a strong emphasis on environmental stewardship and corporate social responsibility, which may outweigh the potential deterrent effect of profitability on disclosure. Companies with low returns on equity may use environmental disclosure as a strategy to enhance corporate image and investor attractiveness, especially in the face of poor profitability indicators. This result is consistent with that of Istiqomah and Wahyuningrum (2020) who also studied Japanese listed firms.

4.2. Effect of NPM on Environmental Disclosure

Analysis of the Logit regression results shows a statistically significant negative relationship between net profit margin (NPM) and the "INITIATIVE" aspect of environmental disclosure (p=0.00825). This suggests that Japanese firms with lower profitability may be more proactive in disclosing environmental initiatives. One potential reason for this pattern may be the strategic emphasis on environmental transparency as a way of attracting investors, especially in the context of the growing ESG investment trend in Japan. Firms can use detailed environmental disclosure to compensate for declining financial attractiveness and align with the interests of increasingly sustainability-focused investors. This behavior is consistent with the observed trend of more profitable companies disclosing less environmental information, as strong financial performance alone is sufficient to attract investment (Yanto & Muzzammil, 2016). This result is consistent with that of Istiqomah and Wahyuningrum (2020) who also studied Japanese listed firms.

4.3. Effect of Firm Size on Environmental Disclosure

In the Logit regression analyses, firm size emerged as a significant predictor of environmental disclosure, particularly in the "INITIATIVE" and "AUDIT" categories (p=0.04434, p=0.00143). The observed positive correlations suggest that larger firms, which typically operate globally and have greater environmental impacts, are more likely to disclose environmental initiatives and auditing practices. This tendency may be due to the fact that larger companies face more public scrutiny and media exposure, forcing them to be transparent in their environmental practices. Such disclosures are consistent with legitimacy theory as they help to maintain or enhance a company's reputation by demonstrating responsible environmental management. This finding is consistent with legitimacy theory and resonates with previous findings that emphasize the role of firm size in environmental disclosure. This result is also consistent with that of Istiqomah and Wahyuningrum (2020) who also studied Japanese listed firms.

4.4. Effect of CG on Environmental Disclosure

Logit regression results showed significant negative correlation between corporate governance (CG) and the "INITIATIVE" aspect of environmental disclosure (p=0.05577). In Japan, the Corporate Governance Code stipulates a minimum percentage of independent commissioners, which leads to consistency across firms. Thus, differences in environmental disclosure are likely not driven by the presence of independent commissioners alone. Rather, a broader commitment to environmental awareness at all levels of management and the board of directors, as well as by external stakeholders, is likely to influence disclosure practices. This reflects a collective and highly internalized motivation to disclose environmental information and supports the view that effective governance and disclosure do not depend solely on independent oversight but are the result of a comprehensive corporate sustainability culture. This result is consistent with that of Istiqomah and Wahyuningrum (2020) who also studied Japanese listed firms.

4.5. Effect of EMS on Environmental Disclosure

The Logit regression results indicate a significant positive correlation between the presence of an Environmental Management System (EMS) and the "AUDIT" category of environmental disclosure (p=0.03773), as well as a positive correlation with the "TARGET" category (p=0.0799). This could suggest

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

that companies with an established EMS are more likely to engage in and disclose environmental audits and targets, reflecting a structured approach to environmental management. The reason behind this may stem from the fact that EMS, particularly those aligned with international standards like ISO 14001, are designed to continuously monitor and improve environmental performance, which naturally encompasses regular auditing and setting specific environmental targets. This contrasts with the findings of Istiqomah and Wahyuningrum (2020) who also studied environmental disclosure of listed companies in Japan. They concluded that environmental management systems (EMS) have little effect on environmental disclosure. The difference in findings may be due to the difference in sample size.

4.6. Effect of OC on Environmental Disclosure

The Logit regression results show that ownership concentration (OC) is significantly negatively related to the "INITIATIVE" aspect of environmental disclosure (p=0.04173), but significantly positively related to the "TARGET" aspect (p=0.0786). This suggests that while firms with concentrated ownership may not actively disclose ongoing environmental initiatives, they are more likely to disclose stated environmental objectives. One possible explanation is that owners with concentrated ownership, while less concerned with the specific progress of initiatives, remain committed to long-term environmental goals and disclose them as objectives that are aligned with strategic goals and stakeholder expectations.

4.7. Effect of TYPE on Environmental Disclosure

The regression results show that the industry type variable (TYPE) does not show a significant correlation with any of the five dependent variables representing environmental disclosure. This uncorrelation may be due to the fact that Japan has uniform environmental policies and regulations for different industries, which may result in a benchmark standard for environmental disclosure regardless of industry type. Japanese firms are usually bound by strict environmental regulations and social expectations, which promotes a comprehensive and high level of disclosure, which may explain the homogeneity of disclosure practices across industries.

5. Discussion

In this section, we compare the results of this study with those of some previous research, and then make some policy recommendations in order to improve environmental disclosure by Japanese firms.

Table 4. Comparison with Previous Research and Policy Recommendations.

	Previous Research		This Research	Policy Recommendations
	Author	**Results**	**Results**	
ROE	1. Chandok et al. 2. Deswanto et al. 3. Istiqomah et al.	ROE has no significant effect on environmental disclosure.	ROE shows a significant negative impact on the TARGET variable.	Consider that ROE has a significant negative impact on TARGET: Policies could be put in place to require companies with high ROE to report on specific environmental targets. Alternatively, tax incentives or other benefits could be provided to profitable companies that set and achieve strict environmental targets.
NPM	1. Yanto et al. 2. Chandok et al. 3. Istiqomah et al.	NPM has a significant negative effect on environmental disclosure.	NPM is significantly and negatively associated with the INITIATIVE variable.	With NPM showing a negative association with environmental initiatives, policies could mandate detailed environmental disclosure requirements for highly profitable firms to ensure they do not neglect environmental responsibilities.
Firm Size	1. Ohidoa et al. 2. Ahmadi et al. 3. Istiqomah et al.	Firm Size has a significant positive effect on environmental disclosure.	Firm Size has a strong positive association with AUDIT disclosures.	Leverage the positive relationship between firm size and audit disclosures by introducing stringent auditing regulations for larger companies, ensuring their significant environmental impact is properly managed and reported.
CG	1. Solikhah et al. 2. Rashid 3. Istiqomah et al.	Corporate governance mechanism is not proven to affect environmental disclosure.	Corporate Governance (CG) shows a negative relationship with INITIATIVE.	Given that corporate governance has a mixed influence on environmental disclosure, there should be a reform in corporate governance codes to incorporate environmental accountability more explicitly.
EMS	1. Ismail et al. 2. Istiqomah et al.	EMS does not significantly affect environmental disclosure.	Environmental Management System (EMS) is positively associated with AUDIT and TARGET.	Encourage the adoption of EMS across companies of all sizes through incentives, as EMS has been positively associated with environmental disclosure quality.
OC	1. Stephen et al.	Having greater ownership concentration makes a firm significantly less likely to disclose an	Ownership Concentration (OC) positively influences TARGET.	Since ownership concentration positively influences environmental target setting, incentivize concentrated owners to adopt and disclose comprehensive environmental policies.
TPYE	1. Istiqomah et al.	High profile companies have EDscores greater than 14.166% than low profile companies.	Industry Type (TYPE) does not show a consistent significant effect.	Despite industry type not showing a consistent effect, standardize environmental disclosure across different industries to ensure uniformity and comparability of environmental data.

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp

The study aligns with previous research on NPM and firm size's impact on environmental disclosure, while EMS results differ, potentially due to sample size and modeling variations. Derived policy recommendations include mandating high ROI firms to report specific environmental goals or offering tax incentives for stringent targets. To address the negative correlation between NPM and environmental initiatives, policies should ensure detailed disclosure for high-profit companies. Leveraging the positive correlation between company size and audit disclosure, strict auditing requirements for large firms can effectively manage and report significant environmental impacts. Corporate governance codes need reform to explicitly integrate environmental responsibility. Policies incentivizing EMS adoption across all company sizes can enhance environmental disclosure. Encouraging comprehensive environmental policies for companies with concentrated ownership is recommended. Standardizing environmental disclosure across industry sectors is suggested for uniformity and comparability, despite sector-specific impacts lacking consistency.

6. Conclusions

The study shows that larger companies and those with environmental management systems are more likely to disclose environmental information. Return on net assets, net profitability and corporate governance did not have a significant effect on disclosure, nor did industry type. Despite the high level of environmental investment, the level of disclosure is high and future research should focus on improving the disclosure through frameworks such as the GRI standards and TCFD recommendations.

References

Ahmadi, A., & Bouri, A. (2017). The relationship between financial attributes, environmental performance, and environmental disclosure: Empirical investigation on French firms listed on CAC 40. *Management of Environmental Quality: An International Journal*, *28*(4), 490–506.

Aulia, F. Z., & Agustina, L. (2015). Pengaruh karakteristik perusahaan, kinerja lingkungan, dan liputan media terhadap environmental disclosure. *Accounting Analysis Journal*, *3*(1), 361–369.

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *The Academy of Management Journal*, *42*(5), 488–506.

Bowen, F. E. (2000). Environmental visibility: A trigger of green organisational responsiveness? *Business Strategy and the Environment*, *9*(2), 92–107.

Brammer, S., & Pavelin, S. (2008). Factors influencing the quality of corporate environmental disclosure. *Business Strategy and the Environment*, *17*(2), 120–136.

Brown, N., & Deegan, C. (1998). The public disclosure of environmental performance information: A dual test of media agenda setting theory and legitimacy theory. *Accounting and Business Research*, *29*(1), 21–41.

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, *30*(1), 98–115.

Buhr, N. (1998). Environmental performance, legislation and annual report disclosure: The case of acid rain and Falconbridge. *Accounting, Auditing & Accountability Journal*, *11*(2), 163–190.

Cho, C. H., & Patten, D. M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society*, *32*(7–8), 639–647.

Cowen, S. S., Ferreri, L. B., & Parker, L. D. (1987). The impact of corporate characteristics on social responsibility disclosure: A typology and frequency-based analysis. *Accounting, Organizations and Society*, *12*(2), 111–122.

Craig, D., & Ben, G. (1996). A study of the environmental disclosure practices of Australian corporations. *Accounting and Business Research*, *26*(3), 187–199.

Cullen, L., & Christopher, T. (2002). Governance disclosures and firm characteristics of listed Australian mining companies. *International Journal of Business Studies*, *10*(1), 37–58.

Damak, S. T. (2013). The corporate governance mechanisms: Evidence from Tunisian banks. *IOSR Journal of Business and Management*, *9*(6), 61–68.

Dang, C., Li, Z. F., & Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking and Finance*, *86*, 159–176.

Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures – A theoretical foundation. *Accounting, Auditing & Accountability Journal*, *15*(3), 282–311.

de Burgwal, D. V., & Vieira, R. J. O. (2014). Environmental disclosure determinants in Dutch listed companies. *Revista Contabilidade & Finanças – USP*, *25*(64), 60–78.

Djajadikerta, H. G., & Trireksani, T. (2012). Corporate social and environmental disclosure by Indonesian listed companies on their corporate web sites. *Journal of Applied Accounting Research*, *13*(1), 21–36.

Elijido-Ten, E. (2004). Determinants of environmental disclosures in a developing country: An application of the stakeholder theory [Conference presentation].

Elkington, J., & Rowlands, I. H. (1999). Cannibals with forks: The triple bottom line of 21st-century business. *Alternatives Journal*, *25*(4), 42.

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*

Email: shaw@sfc.keio.ac.jp

Giannarakis, G. (2014). Corporate governance and financial characteristic effects on the extent of corporate social responsibility disclosure. *Social Responsibility Journal*, *10*(4), 569–590.
Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal*, *8*(2), 47–77.
Guthrie, J., & Parker, L. (1989). Corporate social reporting: A rebuttal of legitimacy. *Accounting and Business Research*, *19*(6), 343–352.
Hannouche, M., Lebbad, A., & Wafa, T. (2014). *Management of Environmental Quality: An International Journal*, *25*(2), 244–256.
Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the U.S. chemical industry. *Academy of Management Journal*, *42*(4), 351–371.
Hogner, R. H. (1982). Corporate social reporting: Eight decades of development at U.S. Steel. *Research in Corporate Social Performance and Policy*, *4*, 243–250.
Iatridis, G. E. (2013). Environmental disclosure quality: Evidence on environmental performance, corporate governance, and value relevance. *Emerging Markets Review*, *14*, 55–75.
Irawati, D. E. (2012). Pengaruh struktur modal, pertumbuhan laba, ukuran perusahaan dan likuiditas terhadap kualitas laba. *Accounting Analysis Journal*, *3*(1), 361–369.
Istiqomah, I., & Wahyuningrum, I. F. S. (2020). Factors affecting environmental disclosure in companies listed on the Tokyo Stock Exchange. *Accounting Analysis Journal*, *9*(1), 22–29.
Lampe, H. K. (2013). Financial statement analysis of logistics service providers: Ways of enhancing performance. *International Journal of Physical Distribution & Logistics Management*, *43*(4), 321–342.
Liu, C. M., O'Farrell, G., Wei, K. K., & Yao, L. J. (2013). Ratio analysis comparability between Chinese and Japanese firms. *Journal of Asia Business Studies*, *7*(2), 185–199.
Lu, L. W., & Taylor, M. E. (2018). A study of the relationships among environmental performance, environmental disclosure, and financial performance. *Asian Review of Accounting*, *26*(1), 107–130.
Milne, M. J., & Patten, D. M. (2002). Securing organizational legitimacy: An experimental decision case examining the impact of environmental disclosures. *Accounting, Auditing & Accountability Journal*, *15*(3), 372–405.
O'Donovan, G. (2002). Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing & Accountability Journal*, *15*(3), 344–371.
Ohidoa, T., Omokhudu, O. O., & Oserogho, I. A. F. (2016). Determinants of environmental disclosure. *International Journal of Advanced Academic Research*, *2*(8), 49–58.
Patten, D. M. (1992). Intra-industry environmental disclosures in response to the Alaskan oil spill: A note on legitimacy theory. *Accounting, Organizations and Society*, *17*(5), 471–475.
Rahmawati, S., & Budiwati, C. (2018). Karakteristik perusahaan, ISO 14001, dan pengungkapan lingkungan: Studi komparatif di Indonesia dan Thailand. *Jurnal Akuntansi dan Bisnis*, *18*(1), 74–87.
Rao, K. K., Tilt, C. A., & Lester, L. H. (2012). Corporate governance and environmental reporting: An Australian study. *Corporate Governance: The International Journal of Business in Society*, *12*(2), 143–163.
Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, Organizations and Society*, *17*(6), 595–612.
Sari, P. Y. M., & Marsono. (2013). Pengaruh kinerja keuangan, ukuran perusahaan dan corporate governance terhadap pengungkapan sustainability report. *Diponegoro Journal of Accounting*, *2*(1), 1–10.
Ullmann, A. A. (1985). Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of U.S. firms. *The Academy of Management Review*, *10*(3), 540–557.
Wahyuningrum, I. F. S., & Budihardjo, M. A. (2018). Relationship between company financial performance, characteristic and environmental disclosure of ASX listed companies. *E3S Web of Conferences*, *73*, 10024.
Yanto, H., & Muzzammil, B. S. (2016). A long way to implement environmental. *International Journal of Applied Business and Economic Research*, *14*(40), 6493–6514.

International Journal of Business Management and Finance Research
Vol. 8, No. 4, pp. 16-24
2025
DOI: *10.53935/26415313.v8i4.455*
Email: shaw@sfc.keio.ac.jp