

Relation between Environmental Accounting & Disclosure Practices and Corporate Performance Indicators: A Study of Selected Listed Banks of Bangladesh

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Abstract

The purpose of this paper is to examine the corporate performance indicators- age, size, EPS, NPAT, ROA, NAVPS influencing the level of environmental disclosure information from a sample of 15 Bangladeshi listed banks. Multiple regression analysis shows a negative and significant impact of age on environmental accounting disclosure practice. New banks tend to disclose more about environmental issues. However, profitability (measured by EPS, ROA, NPAT) and size (NAVPS) have no impact on the disclosure level. The study's findings help understand Bangladeshi listed banks behavior in terms of environmental disclosure. Therefore, this study concludes that level of environmental accounting and disclosure is not significantly influenced by corporate performance indicators.

Keywords: Environmental Accounting, Disclosure, Corporate Performance, Banks, Bangladesh.

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1. Introduction

The duties and responsibilities of an organization towards its society, irrespective of its industry, cannot be neglected. This is due to the fact that social factors often determine the future aspects of a company. The importance of environmental protection, and maintaining a relationship with society are now considered no less important than financial indicators (Hanić, Jovanović, & Stevanović, 2021). Such an organization can strengthen its relationship with the investors by disclosing reports in relation to sustainability, corporate social responsibility (CSR) as well as environmental accounting (Khan, 2019). Companies that practice environmental accounting and reporting, reduce the environment from pollution and other disasters. In return, the companies are presented with sustainability. In other words, companies can ensure credibility by practicing environmental accounting and reporting and getting recognized for their efforts to promote social activities (Khan, 2019). Although it is the responsibility of every entity to preserve the environment and refrain from activities that are harmful to the environment, corporates are expected to refrain from such activities and promote social awareness (Khalil & O'sullivan, 2017). This is because not only do corporations cause the greatest harm to the environment but also they have the appropriate resources to take effective measures in this regard (Pramanik, Shil, & Das, 2008).

According to Mehedy, Sajib, and Karim (2018), banks and other financial institutions can significantly reduce costs related to energy consumption by adopting greener technology. Moreover, it is estimated that going green will not only improve the company's performance but also will enhance the relationships between the company and its stakeholders. Again, as people are more concerned about ensuring ecological balance, they tend to prefer receiving services from companies that promote environmental sustainability and have adopted green technology. Environmental accounting plays an important role in this regard (Smith, Yahya, & Marzuki Amiruddin, 2007). Hanić, Jovanović, and Stevanović (2021) stated that, although certain banks emphasize the disclosure of environmental practice, the figures on their reports are not very accurate. Moreover, these banks tend to disclose just the positive information in the reports. These banks promote social activities but fail to properly communicate with the stakeholders (Khalil & O'sullivan, 2017). As they have identified their lacking in this context, banks are organizing different training programs for their employees to raise environmental awareness. An upward trend has been observed in the context of ensuring saving and ensuring the maximum utilization of available energy and recycling paper. In order to reduce electricity consumption, banks are now looking to apply advanced technology and other environmental approaches (Hanić, Jovanović, & Stevanović, 2021). Moreover, most banks are now considering the adoption of Environmental Disclosure (ED). ED will ensure the transparency of the financial reports of the banks and as a result, the credibility will also increase (Mehedy, Sajib, & Karim, 2018). Disclosing environmental information will result in an increase in the banks' credibility and trustworthiness. In other words, the overall value of the financial institutions will increase (Smith, Yahya, & Marzuki Amiruddin, 2007). According to Khalil and O'sullivan (2017), this disclosure of green accounting and other social information must be provided with adequate evidence. Results are important in this regard. That is, banks must include the results of their social activities along with their intentions. Intentions

without results add no value to the banks (Hossain, Islam, & Naznin, 2019).

Most of the financial and non-financial institutions established in the Indian subcontinent are insensitive regarding CSR and environmental accounting compared to those of developed nations (Pramanik, Shil, & Das, 2008). In Japan, companies cannot but disclose information regarding environmental accounting. They must train their employees to have a proper understanding of corporate social responsibility (CSR) and green technology. Additionally, the government of Japan instructed corporates to continually update information regarding environmental accounting (Pramanik, Shil, & Das, 2008). The government of the United Kingdom also requires companies to practice environmental accounting to some extent and disclose relevant information in this context (Hossain, Islam, & Naznin, 2019). However, Hossain, Islam, and Naznin (2019) stated that, compared to other industries, the banking sector is significantly enhancing its position in the context of environmental accounting and are implying green technology.

Most of the people of Bangladesh are unaware of environmental accounting and reporting. As a result, banks tend not to disclose their environmental information to the stakeholders and carry out activities that are detrimental to the environment and society (Hossain, Islam, & Naznin, 2019). However, some banks are now disclosing information regarding their social activities in their annual reports but this information can be easily manipulated. In order to improve this situation, the board of directors and management play an essential role. If the stakeholders are aware of environmental accounting and reporting, banks will be bound to disclose accurate information (Shil & Iqbal, 2005). Moreover, as a measure towards sustainable development, the central bank of Bangladesh, Bangladesh Bank, has developed a framework for the banking industry to incorporate Green Banking Policy which has led banks to, among other things, disclose their efforts through Environmental Accounting Disclosures in their Annual Reports (Lalon, 2015). However, Environmental reporting, being a comparatively newer concept in Bangladesh, has very few studies done on it (Dutta and Bose, 2007). Therefore, this study will help shed light on the current practice of environmental disclosure in the banking industry of Bangladesh considering their corporate performance.

2. Literature Review

Although Environmental accounting is a growing concept, many researchers have studied environmental reporting practices by business organizations. Khan (2019) studied thirteen listed NBFIs in Bangladesh by analysing their annual reports for the period of 2013 to 2016 to find the relationship with performance indices such as Earnings per Share (EPS), Net Asset Value per Share (NAVPS) and Net Profit after Tax (NPAT) to environmental accounting and reporting (EAR) practices. He used Ordinary Least Square (OLS) regression model and checked multicollinearity using Pearson Correlation model. He concluded that performance indices do not significantly explain the extent of EAR practices since NAVPS and NPAT were positive but not significant in explaining EARS, whereas, EPS was found to be negatively but significantly associated with EAR disclosures.

Mehedy, Sajib, and Karim (2018), examined annual reports of 25 companies from five sectors of Dhaka Stock Exchange (DSE) listed Bangladeshi companies to find the extent of their environmental accounting disclosures and found that most companies tend to report only positive environmental activities conducted by them. Most of them do not have proper environmental policy guideline. However, the relationships of company's Assets, Gross Profit and Earnings per Share (EPS) was significant with their environmental accounting information disclosure but no relationship was found with the company's Age.

Hossain, Islam, & Naznin (2019) did a similar study as above and surveyed 22 companies from five sectors of Dhaka Stock Exchange (DSE) listed Bangladeshi companies, including five banks, and analysed their annual reports for 56 environmental items. Their individual analysis of the banking sector showed there is high level of disclosure on Environment Pollution but low level on Environmental Energy.

Shil & Iqbal (2005) analysed 121 listed Bangladeshi companies that did not include banks and found that only 11% of them disclosed any environmental activities.

If we look at the of environmental accounting disclosure practices at other parts of the world, Pramanik, Shil, & Das (2008) found that in most countries environmental accounting disclosure and reporting has become mandatory. Smith, Yahya, & Marzuki Amiruddin (2007) examined the annual reports of the year 2002 of 40 companies listed on the Kuala Lumpur Stock Exchange and concluded that financial performance was negatively associated with environmental disclosure. Size and political costs had no significant impact on environmental disclosure.

According to Khalil and O'sullivan (2017), the analysis of 34 Lebanese banks' website shows that there is strong positive relationship between environmental reporting and both profitability and size, positive relationship between environmental reporting and both leverage and ownership concentration, and insignificant association with age and religion.

Hanić, Jovanović, & Stevanović (2021) analysed 10 Serbian banks, based on based on 15 variables to measure the environmental disclosure index (EDI) and compared their size and financial performance. They

found that majority of Serbian banks discloses their environmental policy (74%), has conducted environmental activities with the local community (51%), and efficiently utilizes water, energy, and paper (48%). However, bank size has no influence on EDI and there is no positive relationship between financial performance and EDI.

Buallay & Alhalwachi (2022) on the other hand, studied the data of 2,116 banks worldwide from 2007 to 2016 and found that female board members had a significant positive influence on the environmental disclosure. Also, OPEC countries have better disclosure than non-OPEC countries. Bank size was positive and significantly associated with environmental disclosure. Financial leverage and GDP, however, had negative significant relationships with environmental disclosure

3. Objective of the study

The objective of the study is to know the relationship between corporate performance indicators and environmental accounting and reporting practices in annual reports of the selected banks listed in Dhaka Stock Exchange.

4. Hypothesis Development

The specific hypotheses for the following study are:

H1: There is significant relation between age of the banks and the extent of their environmental accounting disclosure in annual reports.

H2: there is significant relation between the company's size (measured by net asset value per share) and the extent of their environmental accounting disclosure in annual reports.

H3: there is significant relationship between the company's profitability (measured by net profit after tax, earnings per share, and return on assets) and the level of their environmental accounting information disclosure in the annual reports.

5. Sample and Data

This study is empirical research by nature and based on information from secondary data sources. All the data used for drawing conclusion has been collected from annual reports of the concerned banks.

5.1 Sample size

At present 34 banks are listed in Dhaka Stock Exchange which is considered as the population for this study. Among these, 15 banks are selected for this study which is approximately 44% of the population (Appendix A). For a descriptive study, a minimum acceptable sample size is 10% (Gay and Diehl, 1992). Therefore, the sample size selected for the study (44.12%) is acceptable. The financial institutions were chosen on judgment sampling basis which is consistent with Masud & Hossain (2012).

5.2 Data source

All the data used for this analysis has been collected from annual reports of the concerned banks. Annual reports are thought to be a common and popular means of communicating with stakeholders and its credibility is also widely accepted (Adams, 2004; Gray et al., 1995a, b; Guthrie & Parker, 1990; Raman, 2006; Singh & Ahuja, 1983)

5.3 Selection of period

Annual reports from 2019 to 2021 have been used because latest and current year data should be used to make the study contemporary. (Mehedi, Sajib, Karim, 2018).

5.4 Development of Environmental analysis and Disclosure index

To analyze the extent of environmental disclosure in banks 12 major categories with specific coding. The areas were selected based on previous research and present Bangladesh Bank green policy guidelines. (Masud, Bae, Kim, 2017; Imran, 2019). For the purpose of this study, an un-weighted approach (dichotomous scale) is adopted, in which if a bank discloses an item of information included in the disclosure index it is assigned a score of 1, and 0 if it is not disclosed. Researchers such as Wallace et al. (1994), Cook (1991 and 1992), Karim (1995), Hossain et al (1994), Ahmed and Nicholls (1994), Hossain (2001 and 2010), Ullah (2013); Masud, Bae and Kim (2017) also adopted this procedure in their study.

6. Regression Models

In order to obtain the objective of study one model has been developed with one dependent variable and four independent variable. SPSS has been used to process and analyze data. To assess and interpret data, statistical tools like multiple regression analysis, F-test, and correlation have been used.

6.1 List of variables

The variables used in this study are given below:

Table 2. Descriptive Statistics

Dependent Variable:		
EADS	Environmental Accounting and Disclosure Score	
Independent Variables:		
EPS	Earnings Per Share	Measure of profitability
NPAT	Net Profit After Tax	Measure of profitability
ROA	Return on Assets	Measure of profitability
NAVPS	Net Asset Value Per Share	Measure of size
Age	Age	Measure of Age

6.2 Regression Equation

$$EADS = \alpha + \beta_1 \text{ Age} + \beta_2 \text{ NPAT} + \beta_3 \text{ NAVPS} + \beta_4 \text{ EPS} + \beta_5 \text{ ROA}$$

7. Results of Analysis

7.1 Descriptive Statistics

Table 2. Descriptive Statistics

	Mean	Std. Deviation	N
EADS	9.33	1.745	45
Age	25.60	6.394	45
EPS	2.7389	2.04647	45
NPAT	2829.64967951	1436.369953126	45
NAVPS	26.3444	10.78834	45
ROA	.732444	.3452151	45

From Table 2 EADS shows average score is 9.33 The standard deviation is 1.75 which indicates disclosure practice by banks varies moderately. The mean of EPS is TK 2.74 and standard deviation is TK 2.04 where minimum EPS reported by an institution is TK 0.33 (IFIC) and maximum is TK 10 (DBBL). The average of NPAT is Tk. 2829.649 with a standard deviation of Tk. 1436.37. The minimum and maximum NPAT reported by banks are respectively Tk. 562 (IFIC) and Tk. 5646 (Brac Bank). The average value of NAVPS is Tk. 26.34 and standard deviation is Tk. 10.79 with minimum and maximum value of Tk. 14.81 (IFIC) & Tk. 58.6 (DBBL) respectively. The value of NAVPS varies/ dispersed significantly among the sample banks. The average value of ROA is Tk. 0.73 and standard deviation is Tk. 0.34 with minimum and maximum value of Tk. 0.20 (IFIC) & Tk. 1.64 (Brac Bank) respectively.

7.2 Ranking of Sample Banks

Table 3. Ranking of Banks based on EADS

Banks	Total number of Disclosure	Banks	Total number of Disclosure
Bank Asia	36	Eastern Bank	29
Shajalal Islami Bank	34	southeast Bank	28
DBBL	32	Exim	25
UCB	31	One Bank	24
Brac Bank	30	Dhaka Bank	22
Prime Bank	30	Islami Bank	21
Standard Bank	30	IFIC	18
Premier Bank	30		

The highest number of disclosure by an individual bank in a year is 12 (Bank Asia, Exim, Shahjalal) and lowest number is 6 (IFIC, Islami Bank). Considering the total disclosure of three years, the highest number is 36, which is reported by Bank Asia.

7.3 Results of Correlation Analysis

Table 4. Correlations

		EADS	Age	EPS	NPAT	NAVPS	ROA
Pearson Correlation	EADS	1.000	-.475	.269	.108	.181	.353
	Age	-.475	1.000	-.001	.175	.202	-.294
	EPS	.269	-.001	1.000	.776	.898	.703
	NPAT	.108	.175	.776	1.000	.816	.673
	NAVPS	.181	.202	.898	.816	1.000	.455
	ROA	.353	-.294	.703	.673	.455	1.000

The results of Pearson correlation of coefficient signifies that, except age, all other variables (EPS, NAVPS, NPAT, ROA) are positively related to EADS. Banks with higher EPS, NAVPS, NPAT, and ROA disclose more about environmental issue. On the other hand banks of greater age disclose less.

7.4 Results of Multiple regression analysis

Table 5. Model Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.596 ^a	.355	.272	1.489	
a. Predictors: (Constant), ROA, Age, NAVPS, NPAT, EPS					

From the table 5 R square and Adjusted R square is observed to be 35.5% and 27.2% respectively. This implies that 27.2 % of the variation in total environmental disclosure is explained by independent variables.

Table 6. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.582	5	9.516	4.295	.003 ^b
	Residual	86.418	39	2.216		
	Total	134.000	44			
a. Dependent Variable: EARS						
b. Predictors: (Constant), ROA, Age, NAVPS, NPAT, EPS						

The F-ratio in the ANOVA (Table 6) tests whether the overall regression model is a good fit for the data (Dhakal, 2018). The table shows that the independent variables predict the dependent variable in a statistically significant manner, $F = 4.295, p (.003) < .05$.

Table 7. Coefficients

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.230	1.875		4.922	<.001
	Age	-.112	.043	-.411	-2.591	.013
	EPS	-.483	.439	-.567	-1.101	.278
	NPAT	-.001	.000	-.539	-1.573	.124
	NAVPS	.155	.086	.960	1.804	.079
	ROA	2.812	1.706	.556	1.649	.107
a. Dependent Variable: EARS						

The coefficients of independent variables indicate both the magnitude and the direction of the relationship with dependent variable (Table 7) (Bhasin, Makarov & Orazalin, 2012). Age significantly affects the extent of environmental disclosure ($P=0.013 < 0.05$) negatively. All other variables EPS, NPAT, NAVPS, ROA have statistically insignificant impact on extent of disclosure (respectively $p= 0.27, 0.12, 0.079, 0.107 > p=0.05$). From the statistical data it can be concluded only H1 is supported and, H2 and H3 are not supported.

The equation of the regression model can be written as follows:

$$\text{EADS} = 9.230 + -.112 \text{ Age} + -.483 \text{ NPAT} + -.001 \text{ NAVPS} + .155 \text{ EPS} + 2.812 \text{ ROA}$$

7. Conclusion

The main objective of this study was to examine the relationship between environmental disclosure practices of selected listed banks of Bangladesh and certain selected influencing variables. The results of multi regression support only the hypothesis about age. The hypotheses about size and profitability are not supported. However, the result about age from this study is compatible with the result of Mehedy, Sajib and Karim (2018) where age has significant ($p=.007$) relation with environmental disclosure. The result of Khan (2019) about Nonbanking financial institution's (NBFI) shows NAVPS is insignificant in explaining variation in environmental disclosures

which is well-matched with this study. Khan's (2019) results differ from this study regarding EPS and NPAT where these variables showed significance in explaining environmental disclosure. Even though age has significant influence on level of environmental disclosure, the direction is not as expected. The study finds that newer banks tend to disclose more about environmental issues.

However the study has some limitations. This study considered data for three years of some selected banks. The findings would be more generalized if ten years data of all the listed banks were considered. Also the adjusted r square is somewhat low which indicates that some important variables may have not been introduced to this study. The power of the regression model could have been enhanced by adding more independent variables. Even with these limitations the results of this study with this particular data cannot be overlooked as it depicts the most recent scenario of environmental disclosure by banks. More research on this topic would encourage companies to report more about environmental issues which finally would result in more protective attitude towards our mother earth.

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