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**The disclosure of social and environmental  
activities among selected manufacturing firms  
in the Top 500 Corporations in the Philippines**

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## **Abstract**

The paper attempts to determine the social and environmental activities engaged in by selected manufacturing firms in the Top 500 Corporations and how they were disclosed in financial statements and non-financial reports. Results of the study showed that disclosure of social and environmental activities is more qualitative rather than quantitative in nature. Sample firms disclosed their involvement in their websites and non-financial reports like newsletters, social reports, environmental reports and the like. Social reports are called by different names. Very little disclosure was made in the annual reports and was never found in the body of audited financial statements but in the notes to financial statements.

Among the independent variables, gross revenue was found to have the most significant positive correlation with social activities and environmental activities based on the statistical tests done and, therefore, had the most explanatory influence on both activities. Total assets, on the other hand, showed no significant positive relationship to both social and environmental activities.

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# **The Disclosure of Social and Environmental Activities among Selected Firms in the Top 500 Corporations in the Philippines**

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## **1. Introduction**

Corporate social responsibility is a business strategy that does not only promote the interests of business firms but also helps in the development of communities, sustainability of environment and improvement of the quality of life of people (Reyes 2002). According to Boatright (1999), it recognizes that business firms have different kinds of responsibilities namely: (1) economic responsibility; (2) legal responsibility; and (3) social responsibility. Operating in a social environment, business firms are not only confined in fulfilling economic and legal obligations but are also accountable for their operations, actions and decisions (McIntosh et al 1998). The key drivers for adding optimum value to society and the communities where organizations operate is through having commitment to corporate and social governance, having an open dialogue with external stakeholders and having the determination to achieve environmental sustainability (Zaire et al 2002). Craig-Smith (2003) shares the same opinion that firms may be rewarded by increased patronage for being socially responsible.

Several studies have linked the relationship of corporate social performance (CSP) to corporate financial performance (CFP). A survey administered by Bebington et al in 1992 to financial directors of the Top 1000 companies in the United Kingdom, revealed that: (1) only 61 percent of the respondents strongly agreed that environmental issues would contribute positively to their companies; (2) only 21 percent of responding companies disclosed environmental matters in financial statements; and (3) accountants had less involvement in activities like environmental review of waste, environmental impact assessments and examination of environmental policy and review of sustainable development (Hoong 1995).

KPMG in its 1996 International Survey of Environmental Reporting showed that environmental issues were already included in the business agenda of companies. Of the firms studied, 71 percent mentioned environmental issues in their annual reports, compared to only 58 percent in 1993. These environmental disclosures were not quantitative but in the form of narrative statements. They were neither verified nor audited by third parties. Social information in the annual reports was perceived to be particularly useful when making specific ethical investments. In addition, its impact on decision-making was the ultimate usefulness of environmental disclosure (Chan and Milne 1999).

Griffin and Mahon (1997) explored the relationship between CSP and CFP by studying, exploring and reviewing 51 articles done from 1981-1996. The review showed inconsistent and contradictory results. Some found a negative relationship between CSP and CFP mostly found by researchers investigating the impact on the stock market.

Most findings reflected a positive relationship; and some others, an inconclusive relationship. All had focused on multiple industries and had multiple sources of data. They had used 80 different financial measures, 57 of which were used by only one researcher.

Chan and Milne (1999) examined the usefulness of narrative disclosures on the financial performance of firms and used two states of corporate performance. One disclosed environment performance is performing badly with respect to the environment while the other disclosed that the company is a leader in environmental management. Findings indicated that investors reacted strongly and negatively to the poor environmental performer but somewhat less expected, investors did not significantly react to the better environmental performer. This finding was consistent with the general observation that firms will rarely disclose poor environmental performance unless required to do so. Firms usually appear willing to report their positive environmental achievements in vague and general terms.

Baba and Hanefah (2001) revealed that for the period 1996 – 2000 all corporate social disclosure (CSD) items made by companies across six industry groupings in Malaysia were all voluntarily made. They also revealed that the non-monetary method of disclosure was more prevalent in the sample reviewed. As to where the CSD items were disclosed in the Annual Report, 45 percent were found in the Chairman's Statement occupying more than a page and giving information to human resource and community services. One major finding of this study showed that companies disclosed CSD information even during economic downturn.

Hamid and Rahman (2001) investigated the extent of social disclosure practiced by Malaysian banks and finance companies. Findings showed that social disclosure level was still low. It was found that the size of the firm had a positive relationship with the amount of social disclosure made. Also, the amount of social disclosure did not show significant relationships with profitability, scope of business, listing status and audit firm size.

In a survey among selected banking institutions in the Philippines using the 1999 Annual Report as research instrument, Bernados (2001) found out that among the banks subjected to this study, not all reported substantial disclosures on social activities. There was no common reporting system and there was no mention or disclosure about environmental issues. The corporate social responsibility (CSR) was focused on various social programs administered by the banks at 37 percent; 25 percent were focused on services; 17 percent were focused on customers; 15 percent were focused on employees; and only 6 percent were focused on the banking industry as a whole. As to which part of the Annual Report these social activities were reported, the study showed that 37 percent of CSR was contained in the Chairman's Message; 28 percent in the Letter to Stockholders; 24 percent in the President's Message; and only 11 percent in the banks' Vision and Mission Statement. It was also noticed that CSR read in the President's Message was also found in the Chairman's Message.

This paper would like to determine which among the Top 500 Corporations in the Philippines are involved in social and environmental activities. It also would like to

determine what particular social and environmental activities they engage in; how these activities are disclosed in financial statements and non-financial reports; and if the firms' involvement relates to financial performance.

Thus, the major research problems are as follows:

1. What are the disclosure practices on social responsibility and environmental concerns among selected manufacturing firms in the Top 500 Corporations in the Philippines?
2. To what extent do these selected firms' involvement in social and environmental activities relate to financial performance?

Specifically, this paper aims to:

1. Determine the social activities disclosed by selected manufacturing firms in the Top 500 Corporations in annual reports and in social and environmental reports;
2. Determine the environmental activities disclosed by selected manufacturing firms in the Top 500 Corporations in annual reports and in social and environmental reports;
3. Determine the selected firms' level of involvement in social activities that can be adequately explained by their differences in size according to total assets, capitalization, gross revenue, and net income;
4. Determine the selected firms' level of involvement in environmental activities that can be adequately explained by their differences in size according to total assets, capitalization, gross revenue, and net income.

It is hoped that the study will help the Philippine Institute of Certified Public Accountants (PICPA), in cooperation with the Accounting Standard Council (ASC), to form a committee represented by all accountants in education and research, in commerce and industry, in the government and in public practice, to formulate ways and means of including the disclosure of social and environmental activities in financial reports. Thus, this will enable the Accounting Standards Council (ASC), based on the study by PICPA, to issue an exposure draft on a standard of accounting and reporting of social and environmental activities in financial reports. The study hopefully will enable the Financial Executives Institute of the Philippines (FINEX), the largest organization of financial executives who are responsible for financial management decisions, to include social responsibility and environmental concerns in decision-making. The study also expect to enable government agencies specifically the Department of Environment and Natural Resources, the Department of Health, the Department of Education, the Department of Labor and the Department of Social Welfare Administration, to provide venue for social and environmental education programs on a regular basis for information dissemination, to update the existing environmental and social laws, and to monitor people as well as corporate compliance to environmental and social laws. It is also hoped to inspire the business community to engage in social and environmental activities as part

of its operations. Finally, it is hoped to enable the citizenry to become more supportive of firms, which are engaged in social and environmental activities.

## **2. Framework & methodology**

### **A. Theoretical and operational framework**

The framework of the study is based on the concept given by Boatright (1999) that business firms have economic, legal and social responsibilities. Among the economic responsibilities of firms are to produce goods and services; and to provide jobs and good wages to employees. Acting as fiduciary and manager of business assets is one of the legal responsibilities of the firm. The focus of this study, however, is on the social responsibilities of firms which include the following: (1) contributing to civic and charitable organizations; (2) providing benefits for employees and safety in the workplace; (3) operating a program that addresses some major social problems; (4) protecting the welfare of society as well as its own; and (5) operating in a manner that protects the Earth.

Operationally, the study would like to determine if the disclosure of social activities and environmental activities are dependent on the size of the firms' total assets, capitalization, gross revenue and net income. Thus, the study has **two dependent variables** – the *social activities* and *environmental activities*; and **four independent variables** – size according to *total assets, capitalization, gross revenue and net income*.

### **B. Assumptions of the study**

Social and environmental activities are assumed to be the responsibility and accountability of business firms. Manufacturing firms, by the nature of their business, use natural resources. They also produce a significant amount of waste materials from their processes. Being so, social and environmental activities are very much a part of their operations and as such, these activities should be disclosed and included in their annual reports.

### **C. Methodology**

The descriptive and causal methods of research design are utilized to answer the research problems and objectives given. The descriptive design focuses on the profile of 60 manufacturing firms among the Top 500 Corporations in the Philippines. The causal design, on the other hand delves on determining if the occurrence in the financial performance leads to changes in the involvement of these firms in social and environmental activities. It also attempts to identify significant differences of the variables under study. It made use of primary and secondary data, which were analyzed using both the stepwise method and all possible regression analysis.

#### D. Data-gathering procedures

- Step 1: The companies were drawn from the Top 500 Corporations in the Philippines as of the year 2000.
- Step 2: These 500 corporations were categorized as manufacturing firms and non-manufacturing firms as follows:

**Table 1. Distribution as to type of industry**

Type of Industry	Subpopulation size (N)	Percentage
Manufacturing	204	40.80
Non-manufacturing	296	59.20
Total	500	100.00

- Step 3: With a desired confidence level of 90% and a 0.10 margin of error, sixty (60) samples were chosen out of two hundred and four (204) manufacturing firms using stratified sampling (Edralin 2000):

**Table 2. Sample description**

Gross Revenue	Sub-population	Manufacturing	Sample size
P90B and above	3	1	
80B – 89.9B	3	3	1
70B – 79.9B	0	0	
60B – 69.9B	1	0	
50B – 59.9B	1	1	
40B – 49.9B	2	1	
30B – 39.9B	4	3	1
20B – 29.9B	9	2	1
10B - 19.9B	32	14	4
Less than P 10B	445	179	53
Total	500	204	60

- Step 4: The social and environmental activities were gathered from the company website, annual reports, newsletters, social reports and were verified from a survey.
- Step 5: Gathered social and environmental activities were recorded and coded.
- Step 6: Social and environmental activities were transformed into quantitative data. Firms that undertake the specified social and environmental activity were marked 1; while those that do not undertake the specified activity were marked zero.

Step 7: The selected firms' total assets, capitalization, gross revenue and net income, were gathered from audited financial statements and from Business Profiles 2000-2001: Top 7000 Corporations in the Philippines.

Step 8: The social and environmental activities, and the firms' total assets, capitalization, gross revenue and net income, were analyzed by applying regression analysis as statistical treatment using Excel's MegaStat.

The scope of the study was limited to sixty (60) selected firms out of two hundred and four (204) manufacturing firms in the Top 500 Corporations in the Philippines. The financial attributes and independent variables are total assets, capitalization, gross revenue and net income for the year 2000 as found in audited financial statements and from Business Profiles: Top 7000 Corporations in the Philippines. The study makes use of two dependent variables, social activities and environmental activities engaged in 2000.

## E. Hypothesis

This paper aims to determine if changes in total assets, capitalization, gross revenue and net income of sixty selected firms in the Top 500 Corporations in the Philippines, have an effect on their involvement in social and environmental activities. The following hypotheses were advanced:

1. There is no significant effect in the social activities disclosed by the selected manufacturing firms in the Top 500 Corporations in relation to:
  - Size according to total assets
  - Size according to capitalization
  - Size according to gross revenue
  - Size according to net income

Thus: Null hypothesis  $H_0$ :  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$  ( the changes in total assets, capitalization, gross revenue and net income have no effect on the firms' involvement in social activities)

Alternative hypothesis  $H_a$ :  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$  ( the changes in total assets, capitalization, gross revenue and net income have an effect on the firms' involvement in social activities)

Where  $\beta_1$  represents the interaction effect for every change in the firms' involvement in social activities attributed to the change in total assets;  $\beta_2$  represents the interaction effect for every change in the firms' involvement in social activities attributed to capitalization;  $\beta_3$  represents the interaction effect for every change in the firms' involvement in social activities attributed to gross

revenue; and  $\beta_4$  represents the interaction effect for every change in the firms' involvement in social activities attributed to net income.

2. There is no significant effect in the environmental activities disclosed by the selected manufacturing firms in the Top 500 Corporation in relation to:
  - Size according to total assets
  - Size according to capitalization
  - Size according to gross revenue
  - Size according to net income

Thus: Null hypothesis  $H_0$  :  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$  ( the changes in total assets, capitalization, gross revenue and net income have no effect on the firms' involvement in environmental activities)

Alternative hypothesis  $H_a$ :  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$  ( the changes in total assets, capitalization, gross revenue and net income have an effect on the firms' involvement in environmental activities)

Where  $\beta_1$  represents the interaction effect for every change in the firms' involvement in environmental activities attributed to change in total assets;  $\beta_2$  represents the interaction effect for every change in the firms' involvement in environmental activities attributed to capitalization;  $\beta_3$  represents the interaction effect for every change in the firms' involvement in environmental activities attributed to gross revenue; and  $\beta_4$  represents the interaction effect for every change in the firms' involvement in environmental activities attributed to net income.

### **3. Presentation, analysis and interpretation of data**

The data and information about the social and environmental activities of the selected manufacturing firms among the Top 500 Corporations in the Philippines and their financial performance are presented below.

#### *A. Sample Firms' Profile*

The selected sample firms have been in business for years ranging from 3 to 79, and employ 250 to 14,659 people. As shown in Table 3, fifty percent or thirty sample firms were engaged in the production of drugs and medicinal products; semi-conductor and other electronic components; cement; EDP equipment and accessories; plastic materials and synthetic resins; and preservation of meat and meat products. The remaining thirty firms were engaged in the production of some other products.

**Table 3. Type of products manufactured**

TYPE OF PRODUCT	NO. OF COMPANIES	PERCENTAGE
Drugs and medicines	10	16.67
Semi-conductor and other electronic components	6	10.00
Cement	4	6.67
EDP equipment and accessories	4	6.67
Plastic materials and synthetic resins	3	5.00
Preservation of meat and meat products	3	5.00
Others	30	50.00
Total	60	100.00

*Source: Business Profiles 2000-2001: Top 7000 Corporations in the Philippines*

The firms' social involvement falls into 10 activities while their environmental involvement falls into 5 activities as shown in Table 4. These activities were gathered from the survey questionnaire, and from the company newsletters and website. Although not all of them prepare a social report; those who were able to prepare call the social report by different names like (1) Social Responsibility Report; (2) Sustainability Development Report; (3) Environmental Progress Report; (4) Health, Sustainability, and Environmental Report; (4) Environmental and Social Report; (6) Environmental, Health and Safety Sustainability Report; and (7) People, Planet and Profits.

Very few data about the firms' involvement came from the Annual Report. They were shown in the Message to Stockholders or in a special topic within the body of the annual report. The only social involvement of the sample firms as shown in the audited financial statements' Notes accompanying Financial Statements was on retirement benefits and employee stock plan.

**Table 4. Social and environmental activities of selected firms**

SOCIAL ACTIVITIES		CODE
1. Educational Assistance Programs		
a. Internal		1A
b. External		1B
2. Medical, Dental & Healthcare Program		
a. Internal		2A
b. External		2B
3. Technical & Livelihood Training Program		
a. Internal		3A
b. External		3B
4. Sports & Recreation Program		
a. Internal		4A
b. External		4B
5. Community Development Programs		5A
6. Donations & Charitable Contributions		6A
ENVIRONMENTAL ACTIVITIES		
1. Waste Management		1
2. Planting and Reforestation		2
3. Energy Conservation		3
4. Environmental Protection, Preservation & Rehabilitation		4
5. Environmental Awareness Campaigns		5

Sources: Survey, company website, company newsletter and social report

#### B. Financial data of sample firms

As to ownership, selected sample firms' total assets ranged from Php 210M to Php 65B. Forty-five percent of the sample firms own assets ranging from Php 1B to Php 2.99B. Shown below is the distribution of the firms based on total assets.

**Table 5. Size according to total assets as of December 31, 2000**

TOTAL ASSETS	NO. OF COMPANIES	PERCENTAGE
Less than Php 1B	7	11.67
Php 1B – Php 2.99B	27	45.00
Php 3B – Php 4.99B	11	18.33
Php 5B and above	15	25.00
Total	60	100.00

Sources: Audited Financial Statements and Business Profile 2000-2001: Top 7000 Corporations in the Philippines

Table 6 shows the size of selected firms according to capitalization. Of the sixty firms, 58.33 percent had less than Php 1B capitalization. Of the firms, only five or 8.34 percent, had a capitalization of Php 5B and above.

**Table 6. Size according to capitalization as of December 31, 2000**

CAPITALIZATION	NO. OF COMPANIES	PERCENTAGE
Less than Php 1B	35	58.33
Php 1B – Php 2.99B	14	23.33
Php 3B – Php 4.99B	6	10.00
Php 5B and above	5	8.34
Total	60	100.00

*Sources: Audited Financial Statements and Business Profile 2000-2001: Top 7000 Corporations in the Philippines*

**Table 7. Size according to gross revenue for the year 2000**

GROSS REVENUE	NO. OF COMPANIES	PERCENTAGE
Php 1B – Php 2.99B	30	50.00
Php 3B – Php 4.99B	14	23.33
Php 5B and above	16	26.67
Total	60	100.00

*Sources: Audited Financial Statements and Business Profile 2000-2001: Top 7000 Corporations in the Philippines*

Sample firms' gross revenue ranged from Php 1B to Php 88B as shown in Table 7. Thirty firms or 50 percent had gross revenue of Php 1B to Php 2.99B.

Reflected in Table 8 is the size of sample firms according to the result of operations. Operations of a company may result to a net income or net loss. As shown in the table, not all these firms had a net profit during the year 2000 and that means expenses were greater than revenue. Fifteen of these firms or 25 percent incurred a net loss. Thus, they still engaged in social and environmental activities although they did not operate at a profit.

**Table 8. Size according to net income (net loss) for the year 2000**

RESULT OF OPERATIONS	NO. OF COMPANIES	PERCENTAGE
Net loss	15	25.00
Less than Php 1B	41	68.33
Php 1B – Php 2.99B	3	5.00
Php 3B – Php 4.99B	1	1.67
Total	60	100.00

*Sources: Audited Financial Statements and Business Profile 2000-2001: Top 7000 Corporations in the Philippines*

**Table 9. Correlation matrix**

	<i>SOCIAL</i>	<i>ENVT</i>	<i>TOTASS</i>	<i>CAPITAL</i>	<i>REVENUE</i>	<i>NET INCOME</i>
<i>SOCIAL</i>	1.000					
<i>ENVT</i>	.433**	1.000				
<i>TOTASS</i>	.168	.137	1.000			
<i>CAPITAL</i>	-.003	-.057	.873**	1.000		
<i>REVENUE</i>	.370**	.374**	.693**	.300*	1.000	
<i>NET INCOME</i>	.156	-.248	.069	.273*	-.204	1.000

\* ± .254 critical value .05 (two-tail)

\*\* ± .330 critical value .01 (two-tail)

As shown above, environmental activities and gross revenues have a significant positive correlation with social activities at 0.433 and 0.370, respectively at a critical value of 0.01. This means that the two variables represent fairly strong relationship with social activities. Using the same critical value of 0.01, gross revenue has a significant correlation with environmental activities at 0.374 while capitalization and gross revenue have a significant positive correlation with total assets at 0.873 and 0.693, respectively and at a critical value of 0.01. The result also shows that gross revenue and net income have significant positive correlation with capitalization at a critical value of 0.05. Thus, gross revenue is the independent variable with the greatest influence on both the social and environmental activities.

**Table 10. Regression analysis - stepwise selection displaying the 3 best models of each size**

60 observations									
Social activities as the dependent variable									
Nvar	TOTAL ASSETS	CAPITAL	REVENUE	NET INCOME	s	Adj.R <sup>2</sup>	R <sup>2</sup>	Cp	p-value
1			.0036**		1.891	.122	.137	5.455	.0036**
1	.1986				2.007	.012	.028	13.211	.1986
2			.0011**	.0517	1.845	.165	.193	3.472	.0022**
2	.3186		.0055**		1.891	.123	.152	6.382	.0090**
2		.3324	.0023**		1.892	.122	.151	6.441	.0093**
3		.0662	.0002**	.0130*	1.805	.200	.241	2.082	.0014**
3	.0890		.0005**	.0176*	1.813	.193	.234	2.554	.0018**
3	.0005* *	.0010**		.0114*	1.832	.176	.218	3.714	.0031**
4	.7925	.4613	.1936	.0137*	1.821	.187	.242	4.013	.0038**
3		.0682	.0014**	.0167*	1.821	.186	.241	4.068	.0039**
3	.0915		.0014**	.0224*	1.829	.179	.234	4.543	.0048**
4	.7948	.4642	.2172	.0175*	1.837	.172	.242	6.000	.0089**
*			± .254	critical value .05 (two-tail)					
**			± .330	critical value .01 (two-tail)					

The result of a stepwise regression of the social involvement of the firms against all four independent variables is shown above. Exhibited are the 3 best models estimated by the stepwise procedure. Using the single model, gross revenue turned out to be the predictor with the greatest influence on social activities. With two independent variables, the results show the combination of gross revenue and net income as the 2 viable explanatory variables of social activities. In the three independent variables model, the variables with the greatest influence on social activities are gross revenue, capitalization and net income.

**Table 11. Regression analysis - all possible regressions**

60 observations									
Social activities as the dependent variable									
Nvar	TOTAL ASSETS	CAPITAL	REVENUE	NET INCOME	s	Adj R <sup>2</sup>	R <sup>2</sup>	Cp	p-value
3		.0662	.0002**	.0130*	1.805	.200	.241	2.082	.0014**
3	.0890		.0005**	.0176*	1.813	.193	.234	2.554	.0018**
4	.7925	.4613	.1936	.0137*	1.821	.187	.242	4.013	.0038**
3		.0682	.0014**	.0167*	1.821	.186	.241	4.068	.0039**
3	.0915		.0014**	.0224*	1.829	.179	.234	4.543	.0048**
3	.0005**	.0010**		.0114*	1.832	.176	.218	3.714	.0031**
4	.7948	.4642	.2172	.0175*	1.837	.172	.242	6.000	.0089**
2			.0011**	.0517	1.845	.165	.193	3.472	.0022**
3	.0032**	.0025**		.0171*	1.846	.163	.220	5.559	.0076**
2			.0054**	.0597	1.861	.150	.193	5.470	.0070**
2	.3186		.0055**		1.891	.123	.152	6.382	.0090**
1			.0036**		1.891	.122	.137	5.455	.0036**
2		.3324	.0023**		1.892	.122	.151	6.441	.0093**
2	.2857		.0137*		1.902	.112	.157	8.016	.0215*
2		.2947	.0142*		1.903	.112	.157	8.061	.0220*
1			.0210*		1.905	.110	.140	7.261	.0136*
3	.8152	.9838	.1644		1.908	.107	.152	8.382	.0252*
3	.8320	.9486	.2224		1.919	.096	.157	10.012	.0479*
2	.0066**	.0165*			1.924	.091	.122	8.522	.0243*
2	.0332**	.0326*			1.928	.088	.134	9.674	.0433*
1				.3010	1.978	.040	.073	12.055	.1166
2		.3856		.2236	1.982	.036	.085	13.165	.1699
2	.6040			.3109	1.990	.028	.077	13.736	.2092
1		.5667			1.991	.027	.060	12.928	.1694
1	.5849				1.991	.027	.060	12.963	.1720
2	.2265			.2671	2.002	.016	.049	13.719	.2369
1	.1986				2.007	.012	.028	13.211	.1986
1				.2338	2.011	.008	.024	13.495	.2338
2		.7196		.2174	2.026	.000	.027	15.337	.4642
1		.9831			2.036	.000	.000	15.229	.9831

\* ± .254 critical value .05 (two-tail)

\*\* ± .330 critical value .01 (two-tail)

Among all possible regressions, the model with 3 independent variables: capitalization, gross revenue and net income registered the best explanatory power on social activities on the basis of most goodness-of-fit criteria. Displayed in the table below each regressor are the p-values of the individual t-tests suggesting their individual significance in explaining social activities.

**Table 12. Regression analysis using stepwise selection displaying the 3 best models of each size**

60 observations									
Environmental activities as dependent variable									
Nvar	TOTAL ASSETS	CAPITAL	REVENUE	NET INCOME	s	Adj R <sup>2</sup>	R <sup>2</sup>	Cp	p-value
1			.0032**		1.486	.125	.140	5.589	.0032**
1				.0562	1.553	.045	.061	11.231	.0562
1				.0195*	1.444	.175	.203	3.113	.0016**
1			.0634		1.470	.145	.174	5.185	.0043**
2		.1471	.0012**		1.472	.143	.172	5.340	.0047**
2			.2079	.0590	1.436	.184	.225	3.504	.0024**
2		.0799	.0302*		1.442	.176	.218	4.003	.0030**
2	.0975		.0135*		1.446	.172	.214	4.329	.0035**
3		.2246	.1212	.1612	1.429	.191	.246	4.022	.0033**
3	.2260		.0828	.1319	1.429	.191	.246	4.031	.0033**
3	.1876	.1250		.1671	1.438	.181	.237	4.686	.0045**
4	.8818	.8609	.4112	.1644	1.442	.176	.246	6.000	.0079**

\* ± .254 critical value .05 (two-tail)

\*\* ± .330 critical value .01 (two-tail)

Displayed are the individual t-tests p-values and the selection criteria when stepwise regression is implemented to identify the 3 best regression models when one, two, three or four independent variables are postulated to impact on the firms' environmental activities. Using one independent variable as size, an examination of the table indicates that gross revenue has the greatest influence on environmental activities at a critical value of 0.01 and is the best model for this size. With two independent variables as size, statistics show that the combination of gross revenue and capitalization have the most explanatory influence on environmental activities. And using three independent variables as size, the variable combination with the best explanatory power to predict environmental activities are gross revenue, capitalization and net income.

Table 13 shows the result of the analysis when all possible models are considered. Among all possible regressions, the model with 3 independent variables: capitalization, gross revenue and net income register the best explanatory power of predicting environmental involvement of firms on the basis of most goodness-of-fit criteria. Displayed in the table below each regressor are the p-values of the individual t-tests suggesting their individual significance in explaining environmental activities as dependent variable.

**Table 13. Regression analysis – all possible regressions**

60 observations									
Environmental activities as dependent variable									
Nv ar	TOTAL ASSETS	CAPITAL	REVENUE	NET INCOME	s	Adj R <sup>2</sup>	R <sup>2</sup>	Cp	p-value
3		.2246	.1212	.1612	1.429	.191	.246	4.022	.0033**
3	.2260		.0828	.1319	1.429	.191	.246	4.031	.0033**
2			.2079	.0590	1.436	.184	.225	3.504	.0024**
3	.1876	.1250		.1671	1.438	.181	.237	4.686	.0045**
4	.8818	.8609	.4112	.1644	1.442	.176	.246	6.000	.0079**
2		.0799	.0302*		1.442	.176	.218	4.003	.0030**
1				.0195*	1.444	.175	.203	3.113	.0016**
2	.0975		.0135*		1.446	.172	.214	4.329	.0035**
2		.4232		.0392*	1.448	.170	.212	4.456	.0038**
2	.0435*	.0160*			1.450	.167	.209	4.635	.0041**
3	.8988	.5645	.4284		1.455	.162	.218	5.986	.0080**
2	.9071			.0208*	1.456	.160	.203	5.099	.0051**
1			.0634		1.470	.145	.174	5.185	.0043**
2		.1471	.0012**		1.472	.143	.172	5.340	.0047**
3		.3133	.0050**	.3245	1.472	.142	.186	6.311	.0088**
3	.3133		.0110*	.2830	1.472	.142	.186	6.311	.0088**
2			.0081**	.1517	1.472	.142	.171	5.389	.0048**
2	.1662		.0022**		1.474	.140	.169	5.535	.0051**
3	.9494	.6663	.2307		1.485	.127	.172	7.336	.0139*
4	.8935	.8935	.2093	.3253	1.485	.127	.186	8.292	.0212*
1			.0032**		1.486	.125	.140	5.589	.0032**
2	.0027*								
2	*	.0044**			1.491	.120	.150	6.891	.0098**
1		.1815			1.491	.119	.149	6.950	.0100*
3	.0120*	.0272*		.3663	1.493	.117	.162	8.002	.0185*
1	.8619				1.515	.091	.122	8.873	.0243*
2	.2262			.0463*	1.546	.053	.085	11.511	.0784
1				.0562	1.553	.045	.061	11.231	.0562
2		.9311		.0649	1.566	.029	.062	13.222	.1635
1	.2950				1.588	.002	.019	14.279	.2950
1		.6660			1.600	.000	.003	15.400	.6660

\* ± .254 critical value .05 (two-tail)

\*\* ± .330 critical value .01 (two-tail)

**Table 14. Pair observations between social activities and environmental activities**

0.000	hypothesized value
4.400	mean SOCIAL
2.500	mean ENVT
1.900	mean difference (social - ENVT)
1.955	standard deviation
0.252	standard error
60	n
7.53	z
5.13E-14	p-value (two-tailed)
1.405	confidence interval 95.% lower
2.395	confidence interval 95.% upper
0.495	half-width

A difference between two mean-test was implemented to verify whether social activities differ significantly to environmental activities of the firms. The test is a paired comparison of two dependent variables. The test registered a p-value of almost zero implying overwhelming evidence that social activities differ significantly to environmental activities.

### 3. Summary and conclusions

This study aims to determine the disclosure practices on social responsibility and environmental concern among selected firms in the Top 500 Corporations in the Philippines. It also attempted to determine as to what extent these selected firms' level of involvement in social and environmental activities relate to financial performance. The major research problems and the hypotheses are again stated followed by the answers based on the findings, analysis and interpretation made.

***Problem 1: Disclosure practices on social responsibility and environmental concerns***

***Answer to Problem 1: Disclosure of social and environmental activities engaged by these firms is more qualitative in nature rather than quantitative.*** Very little disclosure was made in the annual report. The firms' social and environmental involvements were included in the message to stockholders or in a separate body in the annual report. Disclosure was never found in the body of audited financial statements but in Notes to Financial Statements and limited only to information about the employees' retirement benefits and employees' stock option plan. More disclosure was shown in non-financial reports like the company website, a separate social report, in company newsletter and in survey to these firms. The social report was called by different names. They disclosed ten different types of social activities and five different types of environmental activities. The first three social activities these firms were involved in are (1) the giving of

donations and charitable contributions; (2) undertaking community development programs; and (3) providing medical, dental and healthcare to non-employees. They have the least involvement in providing sports and recreation program to outsiders or non-employees. The environmental activities they frequently engaged in are (1) waste management; (2) environmental protection, preservation, and rehabilitation; and (3) environmental awareness campaign. They have the least involvement in energy conservation.

***Problem 2: Extent of selected firms' level of involvement in social and environmental activities that relate to financial performance***

***Answer to Problem 2: The firms are very much involved in social and environmental activities but they significantly differ in their involvement as shown in the pair observations of the two dependent variables.*** Gross Revenue is the independent variable with the most explanatory power to predict social and environmental activities. Total assets as independent variable do not have any explanatory power and therefore do not influence the occurrence of social and environmental activities.

The paper also aims to determine if changes in total assets, capitalization, gross revenue and net income of sixty selected firms among the two hundred four manufacturing firms in the Top 500 Corporations in the Philippines have an effect on their involvement in social and environmental activities. Thus, the following hypotheses were restated and answered:

***Hypothesis 1: There is no significant effect in the social activities disclosed by the selected firms in the Top 500 Corporations in relation to size according to total assets, capitalization, gross revenue and net income.***

***Answer to Hypothesis 1: Gross revenue has the greatest influence on social activities. The null hypothesis is accepted for the independent variable total assets but rejected for gross revenue, net income and capitalization.*** This is shown statistically by the stepwise method and the all-possible regression analysis and summarized below:

**Table 15. Decision on hypothesis 1**

SOCIAL ACTIVITIES	STEPWISE REGRESSION	ALL-POSSIBLE REGRESSION	DECISION
One-variable model	Gross Revenue		Reject null hypothesis for gross revenue
Two-variable model	Gross revenue and net income		Reject null hypothesis for gross revenue and net income
Three-variable model	Gross revenue, net income and capitalization	Gross revenue, net income and capitalization	Reject null hypothesis for gross revenue, net income and capitalization; accept null hypothesis for total assets

**Hypothesis 2:** *There is no significant effect in the environmental activities disclosed by the selected firms in the Top 500 Corporations in relation to size according to total assets, capitalization, gross revenue and net income.*

**Answer to Hypothesis 2:** In analyzing which independent variables have the most explanatory power to predict environmental activities, the stepwise regression shows that *gross revenue is the independent variable that has the greatest influence on environmental activities.* Using both stepwise regression and all-possible regression methods, total assets as independent variable, do not have any significance in explaining environmental activities. Findings are summarized below:

**Table 16. Decision on hypothesis 2**

ENVIRONMENTAL ACTIVITIES	STEPWISE REGRESSION	ALL-POSSIBLE REGRESSION	DECISION
One-variable model	Gross revenue		Reject null hypothesis for gross revenue
Two-variable model	Gross revenue and capitalization		Reject null hypothesis for gross revenue and capitalization
Three-variable model	Gross revenue, net income and capitalization	Gross revenue, net income and capitalization	Reject null hypothesis for gross revenue, net income and capitalization

## **5. Recommendations**

In view of the research findings, discussions and conclusions, the following recommendations are given:

Business firms should disclose and include social and environmental activities in the audited financial statements more particularly in the Income Statement, Statement of Cash Flows and in Notes Accompanying Financial Statements.

In the income statement, the costs of doing social and environmental activities have to be disclosed and shown among the operating expenses. A distinctive account title like Cost of social activities or Cost of environmental activities has to be used to highlight that these firms are engaged in said activities. This will not only quantify the social involvement of the firms; this may also place them in a competitive advantage with other firms offering the same products and services.

It is also suggested to disclose the cost of doing social and environmental activities in the Statement of Cash Flows specifically among the cash flows from operations. As stated earlier, business firms do not only have economic and legal responsibilities but social responsibilities, too.

These social and environmental activities should also be disclosed among the Notes Accompanying Financial Statements in quantitative and narrative form.

Firms engaged in these activities may design a supplementary report depicting the social and environmental activities and call the report by a common name like Social Report. This will supplement the social and environmental activities that are shown in the financial statements.

Since financial statements are the responsibility of management, social and environmental activities as depicted in financial statements, should be made part and parcel of the statement of management's responsibility for financial statements.

Finally, it is recommended to undertake a research on social and environmental activities using a specific type of industry to determine if findings will be the same across industries.

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