

Corporate Social Responsibility Disclosure Practices in Papua New Guinea

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Abstract This study examines the Corporate Social Responsibility Disclosures (CSR) among the companies listed on Port Moresby Stock Exchange (POMSoX), in Papua New Guinea (PNG) analysing annual reports published during the three year period of 2011 – 2013. The study revealed that 60% of the total CSR items expected to disclose by PNG companies have not been disclosed. Further analysis shows that out of the disclosures only 30% are detailed and comprehensive with verifiable and quantifiable evidences whereas other disclosures are loose statements. It was also found that most of the companies place higher emphasis on corporate governance disclosures than other components of Corporate Social Responsibility (CSR). Further, it was found that disclosures in respect of consumer responsibility are poor in all the companies irrespective of the industry type. The findings of the study suggest that company size, profitability, industry type and listing nature influence the level of CSR in PNG companies. The findings also suggest room for improvement of CSR practices and CSR in PNG companies if they are encouraged with proper guidance.

Keywords Papua New Guinea, Corporate Social Responsibility, Corporate Social Responsibility Disclosure, Port Moresby Stock Exchange

1. Introduction

There has been a tremendous growth in the awareness of social responsibility of corporations in recent years. Corporations have been urged to accept responsibility for effects that businesses might have on society Echave & Bhati [21]. Further, corporate social responsibility (CSR) has received a significant amount of attention from both academic researchers and business practitioners Soliman, Din, & Skr [48]. This is because stakeholders are concerned with the manner in which businesses are responding to social responsibility concerns as suggested by Nobel Laureate Wangari Maathai Ponnun & Okoth [44]. Satisfying

stakeholders' explicit and implicit information demand, maintaining their support, while at the same time avoiding threats, would likely to improve company's financial performance Balabanis, Phillips, & Lyall [7]. Hence, Corporate Social Responsibility Disclosure (CSR) has attracted considerable interest in the business sector. As a result, there is an increasing trend of voluntary CSR in many countries.

Over the last few decades, there has been a great deal of academic research into the social responsibility reporting practices of corporations operating in different parts of the world. However, small number of studies has been conducted into CSR and determinants in developing countries Kansal, Joshi, & Batra [36]. There is a dearth of academic research into CSR in developing countries Azim, Ahmed & Islam [6] although there have been a large number of studies in the western world Kansal, et al., [36]; Hussainey, Elsayed, & Abdel [31]. Need for more academic research in developing countries into CSR has been stressed in previous studies Ghazali [26].

Papua New Guinea (PNG) is a resourceful developing country in which 90% of the businesses are owned and controlled by foreign investors. Mining, oil and gas, logging are major economic activities dominate the entire economy. In the recent past, construction industry has emerged as another important economic sector. Currently, PNG's economy is experiencing a rapid growth. These circumstances demand initiatives to improve CSR practices in PNG. Like many other countries, there are no mandatory CSR disclosure regulations or even guidelines in PNG. But as observed by the author, companies are voluntarily disclosing CSR information in annual reports. It was found that there are companies even adopt Global Reporting Initiative (GRI) and UN Global Compact (UNGC). Some companies devote separate section in their annual reports to disclose corporate social responsibility activities rather than disclosing them loosely. Very few studies were undertaken to explain CSR practices in PNG corporate sector. The scope of prior studies is very narrow in focus because researchers have studied CSR practice in only one company or one industry group. For example Chu [13]

studied CSR practices in one mining company. Kepore, Goddard and Higgins [37] also investigated the CSR practices of the same company. Imbun [33] [34] examined CSR practices in multinational mining companies. George [25] study was to determine CSR practices in one petroleum company. Current study focuses on three crucial aspects of CSR in PNG corporate sector. First, it examines the type of CSR information disclosed by PNG companies. Second it investigates the level of disclosures under different themes and industry groups. Finally, the determinants of level of CSR are examined. In this context scope of this study is broader than previous studies. As a pioneering study, this study will provide insights into CSR practices in PNG in particular and developing countries in general.

1.1. Objectives and Research Questions

The specific objectives of the study are set out below.

- (1) Identify and evaluate the nature and characteristics of CSR disclosures made by PNG companies
- (2) Evaluate the CSR levels among the different industry sectors
- (3) Investigate whether there are significant differences of level of CSR, disclosure themes and items among the different industry sectors
- (4) Investigate whether there are significant differences of level of CSR, disclosure themes and items among the different industry sectors in the recent past
- (5) Investigate whether there is a significant relationship between CSR and the company characteristics such as company size, profitability, industry type and listing nature.

To achieve these objectives, this study aims to address the following research questions.

- (1) What types of CSR are made by companies listed on Port Moresby Stock Exchange (POMSoX)?
- (2) Is there any significant difference of CSR levels among the industry sectors?
- (3) Is there any significant difference of CSR themes and items among the industry sectors?
- (4) Is there any significant change in CSR levels, themes and items among the industry sectors in the recent past?
- (5) Is there any significant relationship between CSR level and the company characteristics such as company size, profitability, industry type and listing nature?

1.2. Hypothesis

There are numerous studies carried out to determine the relationship between CSR level and factors influencing such disclosures. The existing literature reveals that company characteristics (company size, industry type, profitability and multiple listing among others) have a potential influence on level of CSR. Dierkes, & Preston

[19]; Patten [43]; Roberts [47]; Hackston & Milne [29] found that the size of a company influences its CSR. Ponnu and Okoth [44], Kansal et al. [36] hypothesized that industry type and level of CSR are positively associated. In number of previous studies, Ofori, Nyuur and S-Darko [41]; Hussainey et al. [31]; Ponnu and Okoth [44]; Lucyanda and Siagian [39] found positive relationship between CSR and company profitability. Gamerschlag et al. [24] focused on CSR in German companies which were listed at a US stock exchange and in German stock exchange. Bancel and Mitto as cited in Gamerschlag et al. [24] found that European companies disclose more information when they cross-listed on a US stock exchange. In these studies multiple or dual listing means listed in two or more developed countries. In this context it is worthwhile to understand the relationship between CSR and company characteristics such as company size, industry type, profitability and listing nature in PNG context. Accordingly the following three hypotheses have been formulated for this study.

H1 The companies listed in POMSoX disclose variety of CSR information under different disclosure themes and items.

H2 There is no significant difference in disclosure level of CSR information under different disclosure themes and items among the industry sectors during the period of 2011-2013.

H3 There is no significant relationship between CSR level and size of the company, industry type, profitability and nature of listing.

2. Literature Review

Corporate social responsibility reporting (CSRR) provides information about how an organisation has addressed its corporate social responsibilities Deegan, p. 1195 [16]. It is the process of communicating the social and environmental effects of organisations' economic actions to particular interest groups within the society and to society at large Gray, Javad, Power and Sinclair [28]; Adams & Zutshi [1]; Razek [45]. Disclosures about CSR are one way that companies demonstrate their legitimacy to stakeholders Dawkins & Ngunjiri [15]. CSR is defined as open and transparent business practices that are based on ethical values and respect for the community, employees, environment, shareholders and their stakeholder Bursa Malaysia [12]. Deegan [16] defines social responsibility reporting as the provision of information about the performance of an organization in relation to its interaction with its physical and social environment. This would include such factors as an organisation's: interaction with the local community, level of support for community projects, level of support for developing countries, health and safety record, training, employment and education programs, environment performance (p.1195).

Literature reveals that some researchers used GRI reporting framework for their studies (Wijesinghe and

Senaratne [51]; Gamerschlag et al., [24]; Islam, Prihatiningtias, Ali and Yuhariprasetya (n.d.) [35]. There are 79 indicators under 7 main disclosure themes (economic, environmental, labour practices and decent work, Human rights, society and product) are included in GRI reporting framework (Global Reporting Initiative 2002-2006) [27].

Empirical evidence suggests that although different themes and items have been used as CSRD, there are similarities in nature although they are not identical. However, uniform information can be found in CSRD only when a standard framework such as GRI is used. Previous studies indicate that the amount of corporate social disclosure being voluntarily disclosed by corporations in corporate annual reports increased significantly Chu [13]. As observed by Deegan and Gordon [17], a significant increase in number of companies providing CSRD in their annual reports and other communication media in the last two decades. This trend is true in companies operating in PNG as well.

Previous studies indicate that company size has no effect on CSRD (Rahman & Widyasari; Tampubolon; Putra; Veronic; Yulita cited in Lucyanda & Siagian [39]. Kansal et al. [36] confirmed that company size has not associated with CSRD in Indian companies. Ponnu and Okoth [44] confirmed that there is no significant relationship between company size and level of CSRD in Kenya. Bayoud et al. [8] confirmed the same relationship in Libya and Wang et al. [50] in China. Hussainey et al. [31] found that company size do not drive CSRD in Egypt. Echave and Bhati [21] found the same results in Spanish companies.

Existing literature reveals that studies have been conducted to establish the relationship between industry type and level of CSRD. Ponnu and Okoth [44], Kansal et al. [36] hypothesized that industry type and level of CSRD are positively associated. Waddock and Graves [49] found that level of disclosure categories depend on type of industry. Manufacturing sector discloses more about community safety and health related to CSR categories while in the oil sector higher disclosure in environmental categories occurs.

Previous studies have found diverse relationships (positive, negative, no relationship) between profitability and firm's social responsibility Aupplre, Carroll & Hatfield [5]; McGuire, Sundgren & Schneeweis [40]; Waddock & Graves [49]. Empirical evidence indicates mix results. Belkaoui and Kapik [9]; Hassan, Giorgioni and Romilly [30]; Aly, Simon and Hussainey [4]; Soliman et al. [48] found positive association in Egypt. Hussainey et al. [31] concluded that profitability is the key driver for Egyptian listed companies to disclose CSR information. Ofori et al. [41] found positive relationship between CSRD and profitability.

Listing rules in developing countries are not strong as in developed countries. When a company is listed in national stock exchange of a developing country, that company discloses only minimum information unless voluntarily disclose more information. However, when a company operating in a developing country is listed in a developed

country, there is a tendency of disclosing more information compared to a company listed only in a national stock exchange in a developing country. Companies operating in PNG could be classified into two categories in terms of listing status. The first category of companies is listed in POMSoX and also listed in Australia or some other developed country. The second category of companies is listed in POMSoX only. Some of these companies apply POMSoX corporate governing principles only whereas some other companies follow Australian Stock Exchange (ASX) corporate governing principles voluntarily although it is not mandatory. In the present study, it is expected to investigate the relationship between CSRD and nature of listing. Nature of listing means whether a company is listed in national stock exchange (single listing) or national and overseas (dual or multi-listing). Beside this, national listing is in a developing country and overseas listing is in a developed country.

3. Methodology

3.1. Sample and Data Collection

This study focuses on CSRD practices in PNG listed companies. Listed companies were selected due to two reasons. Firstly, access to annual reports of listed companies is easier compared to non-listed companies. Secondly, the listed companies control the economy and the business sector in PNG to a greater extent. Therefore, the listed companies are the most appropriate sample that represents the corporate sector in PNG. The decision to focus on the annual reports is justified for in number of reasons in previous studies Hussainey [32]. Company annual report is a statutory document and available freely in listed companies. The annual report is consistently rank highly as communication source by different groups of stakeholders Alfagri & Hussainey [2]. Bouten, Everaerta, Van Liedekerke, Moord, and Christiaens [10] justifies the use of the annual report due to two reasons. Firstly, annual report plays an important role in corporate accountability activities as it is prevailing and often can be directly accessible in the company's website, and also because it is considered as one of the most important tool used by companies to communicate with stakeholders Bouten et al. [10].

There were 19 listed companies at the time (July, 2014) of this study was conducted. Out of these 19 companies 9 were dropped as these companies did not provide any useful information for the study. The 10 companies (53%) selected for the study represent 6 industry types. Gas and petroleum 1, mining 3, trading 2, agro-business, airline 1 and banking & finance 2.

The companies publish online sustainable reports, corporate governance reports and code of conduct in addition to the annual reports but they were ignored for the study because the sole purpose of this study is to use annual reports to understand CSRD practice in PNG. There is no uniform

practice in companies in relation to disclosure of CSR information. They appear in various places in annual reports under different headings. In some reports a separate section is devoted for CSRD whereas in other reports different pieces of CSRD can be found under different sections. For example directors report, corporate governance, shareholder information and notes to financial statements. Wherever they appear in the annual report, all have been considered for analysis.

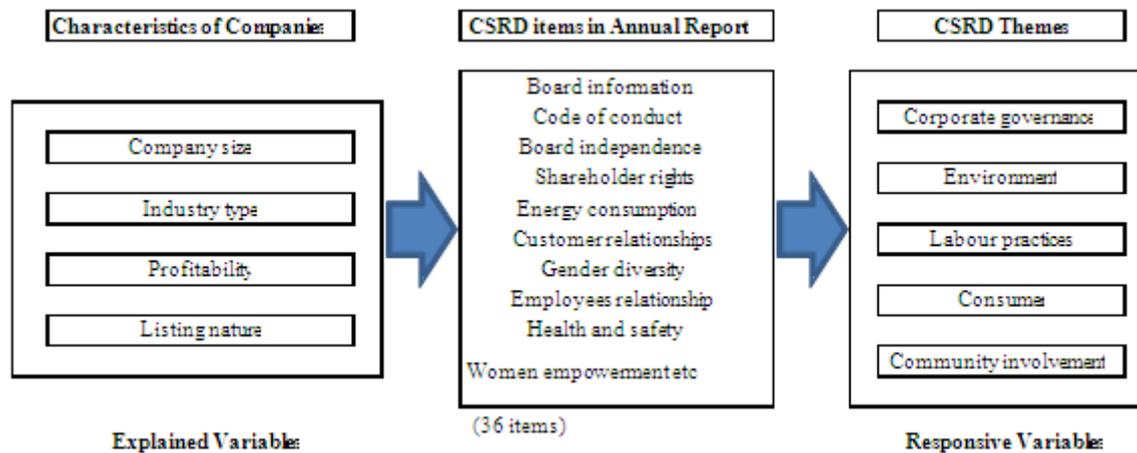
For this study, CSRD data were collected from annual reports of 10 sample companies for the three year period of 2011 – 2013 making 30 annual reports.

3.2. Conceptual Framework

The existing literature indicates that there is no agreement among the business practitioners exactly what items should be disclosed in their annual reports as CSRD. This situation is justified by the Danish Commerce and Companies Agency [14], in its guidelines to supervisory and executive boards. "Define that your business understands as corporate social responsibility and pick out the elements of work that are essential to your business. Corporate social responsibility should be based on the core business and strategic challenges of a business. Make use of existing core competencies in the business to assume social responsibility. That will be of greatest value to society and the business" (P 8). The available literature indicates different companies disclose different items in different countries and industries. This situation gives rise to academic researchers to use different disclosure items in their studies. Kansal et al. [36] used 96 CRS items classified under seven themes; community

development , human resources, product, services, safety and innovation, environment, energy, emission of carbon and harmful gases, and other CSR activities. Hussainey et al. [32] in their study classified CSRD into 6 themes; environmental, human resource, community, energy, product/customer and others. Rizk, Dixon, and Woodhead [46] used 34 items covering environmental, energy, human resource, customer and community related issues. Gamerschlag, Moller and Verbeerten [24] categorized CSR information in their study into two broader themes; environmental and social covering 32 items. Environment, community, employee and general were the four categories considered in study carried out by Dobbs and Staden [20]. Echave and Bhati [21] in their study used seven disclosures; governance, economic, environmental, human resources, product and services, labour, and society / community engagement. Ponnu and Okoth [44] classified CSRD into four categories; environment, community, human resource, product and customers. Bayoud, Kavanagh and Slaughter [8] covered 25 specific disclosure items under four themes; environment, customer, community and employee. Wang, Song and Yao [50] categorized CSRD into six themes; shareholder, employee, consumer services, environment, community and other social responsibilities. Khasharmeh and Desoky [38], covered 47 items under four main themes; environmental, employee, community and social, and product. Dawkins and Ngunjiri [15] used only four themes; environment, community, diversity and employee relations.

After the attentive study of the relevant literature of the CSR, CSRR and CSRD, the conceptual framework for this study is developed on the basis of three hypotheses.



In this study, corporate social responsibility level (CSRDL) is the independent variable and company size, industry type, profitability and listing nature are the dependent variables. Therefore, the functional relationship can be established.

$$CSRDL=f(S, P, L, I)$$

Where;

CSRDL = Corporate Social Responsibility Disclosure Level

S =Size of company

P = Profitability

L = Listing nature

I = Industry type

This study focuses on five themes of CSRDL representing five dependent variables; corporate governance disclosure (CGD), environment disclosure (ENVVD), labour practices disclosure (LPD), consumer disclosure (CD) and community involvement disclosure (CINVD). Thus, CSRDL consists of these five elements.

$$\text{Total CSRDL} = \text{CSRDCGD} + \text{CSRDENVD} + \text{CSRDLPD} + \text{CSRDCD} + \text{CSRDCINVD}$$

3.3. Identification and Measurement of Variables

According to the model CSRDL is the dependent variable. CSRDL is measured by using the traditional content analysis method constructing Corporate Social Responsibility Disclosure Index (CSRDI).

The content analysis method was used to measure the level of CSRDL of the sample companies in consistent with other studies Ettegedge, Richardson, & Scholz [22]; Aly & Simon [3]; Desoky [18]. Content analysis is a research tool focuses on the actual content. It is used to determine the presence of certain words, concepts or sentences within a text or texts and to quantify their presence in an objective manner Palmquist [42]. It is a systematic method of categorising and analysing the content text Bayoud et al. [8]. According to Gamerschlag, et al. [24] content analysis is a method of codifying written text into various groups or categories on the basis of selected criteria. Under this method, score is assigned to each category of disclosures for the purpose of constructing CSRDI. CSRDI is an un-weighted disclosure index, which treats all items equally. In this study, number of disclosure items disclosed under each theme during the reference period has been counted and developed a disclosure level index in percentage format for analysis.

At the first stage annual reports of 10 companies for the three year period 2011-2013 were read carefully and classified into broader disclosure themes; corporate governance, environment, labour practices, consumer and community involvement. At the next stage disclosure information were classified into disclosure items. These items are merely a sub classification of main themes. Under corporate governance 9 disclosure items (board information, code of conduct, fair distribution of responsibilities, gender diversity in senior management and board, board independence from management, shareholder information,

directors and senior executives remuneration information, respect shareholder rights and board committees), environment 4 items (environment management system, energy consumption, water usage, CO₂ emissions and environment conservation), labour practices 9 items(employment data, fair remuneration, education, training and development, consolation with employees, health and safety, employment of locals, security and equal opportunities), customer disclosure 5 items (product and consumer safety, customer services, provision for disables, provision for difficult to reach customers and consumer rights) and community involvement 9 items (education and training, health, culture, sports, infrastructure development, income generating activities, women empowerment, social welfare and violence against women and children) selected for the study making total disclosure items to 36 per company. The total disclosure items for 10 sample companies amounted to 360.

Disclosure themes and items for this study were adopted from three sources; previous studies, GRI framework and company annual reports. Further, certain items were identified on the basis of PNG context but not reported in previous studies. Employment of locals, provision for education and training for members of the community, infrastructure development in the community, income generating activities for the community, women empowerment, violence against women and children, education, training and development of employees. The term equal opportunities is defined and applied in PNG context to include not only men and women but also nationals against expatriates. Employee security is also a PNG specific CSRDL item taken for this study.

At the third stage, Excel data sheet was created for each company listing disclosure themes and items for three years. The appropriate score for each year under each items was entered into the sheet using the following score method.

Level	Score
An item is not disclosed	0
An item is disclosed only but no detailed description	1
An item is disclosed with detailed description but no statistical evidence	2
An item is disclosed with detailed description and statistical evidence (Comprehensive reporting)	3

An item is not disclosed' indicates how many items of disclosures not disclosed in annual reports under 5 different disclosure themes identified for this study. In other words, number of zeros out of 360 disclosure items. At the final stage CSRDI was constructed for each category of disclosure on the basis of the score.

In this study, company size was measured using value of total assets. Literature reveals that total assets have been used as a measure of the size of the company. Rahman, & Vidyasari cited in Lucyanda & Siagian [39], Farouk & Hassan[23],Hackston & Milne [29], Wang, et al.[50].

Six industry types namely; gas and petroleum, mining,

trading, agri-business, airline and banking & finance have been identified for this study as explained in the preceding section.

Profitability was measured by using return on assets (ROA). ROA measures the overall profitability of utilising total assets provided by equity contributors and credit providers. It is a percentage of net profit before tax to total assets. In many studies have used ROA as a measurement to determine the profitability Wijesighe & Senaratne [51] Aupperle et al. [5]; McCuire et al. [40].

For this study, listing nature refers to two types of companies. Firstly, the companies listed in POMSoX only and secondly the companies listed in POMSoX and overseas. The first category of companies is denoted by 0 and the second by 1 for analysis.

3.4. Empirical Model

Quantitative techniques such as regression and correlation models have been used in similar previous studies to determine the relationship between levels of CSR and factors influencing levels of CSR Branco & Rodrigues [11]; Gamerschlag et al. [24]; Hackston & Milne [29]; Wang et al. [50]; Soliman et al. [48], Farouk and Hassan [23].

In current study, the key statistical method used is the regression model to test hypotheses and identify the key determinants of CSR among PNG listed companies from 2011 to 2013.

Regression model developed to investigate the relationship between CSR and company size, profitability, listing nature and industry type in this study is as follows.

$$Y = \beta_0 + \beta_1 S + \beta_2 P + \beta_3 L + \beta_4 I + e$$

Where;

Y = CSRDL

S = Size of company

P = Profitability

L = Listing nature

I = Industry type

β_0 is a constant whereas β_1, \dots, β_4 are co-efficiency of the each calculation and e is the error term.

Pearson and Spearman's correlation coefficients have been used to determine the association between CSRDL under 36 categories and company characteristics. Analysis of Variances (ANOVA) was applied to determine whether any differences among the industry sectors in terms of disclosure content of CSRDL.

4. Empirical Results and Discussion

4.1. Disclosure Status

Table 1 presents the number of items of disclosures under each of the disclosure themes considered for the study and the actual items disclosed by the sample companies together with percentages. According to the statistics, only 39% of the items are disclosed on annual reports leaving 61% items undisclosed. Further analysis shows that corporate governance is the highest disclosed theme whilst the least disclosed theme is the consumer responsibility disclosures.

Table 1. Theme-wise CSR Disclosures on Annual Reports 2011-2013

Theme	No. of items expected to be disclosed	Actual No. of items disclosed	%
Corporate Governance	270	224	83
Environment	150	44	29
Labour practices	270	65	24
Consumer	150	12	8
Community involvement	270	88	32
Total	1110	433	39

Table 2. CSR level trend during 2011 - 2013

CSRD Yearly wise analysis						
Disclosure level criteria	2011		2012		2013	
	Score	%	Score	%	Score	%
An Item is not disclosed	224	62	216	60	216	60
An item is disclosed only but no detailed description	23	6	25	7	25	7
An item is disclosed with detailed description but no evidence	14	4	14	4	16	4
An item is disclosed with detailed description and evidence	99	28	105	29	103	29
	360	100	360	100	360	100

4.2. Trend of CSRD Level

Table 2 exhibits the number of items not disclosed, disclosed at different levels and corresponding percentages. The table indicates that 60% (approximately) of the total items expected to disclose have not been disclosed. This percentage remains unchanged throughout the period. On the other hand, comprehensive disclosures amounted approximately to 29% of the total items expected and remain without significant change during the period. Further, other two categories of disclosures stood at 12% (approximately) without significant change. All in all there is no significant change in level of disclosure items and non-disclosure items under different themes of disclosure.

4.3. CSRD Level Index

Table 3 exhibits the CSRD level index of each disclosure theme based on the disclosure level of the each criterion.

In respect of corporate governance disclosure theme, the highest value of the index is 67% under ‘complete disclosure’ criteria. On the other hand ‘no disclosure’ criteria, the index is 18%. Further analysis shows that index for other two criteria is 15%. This indicates that the total disclosure index for corporate governance is 82%. This means the total score 82% include incomplete or complete disclosure. This can be interpreted that the companies place more emphasis on corporate governance rather than other components of CSR. This may be due to adoption of corporate governance principles of stock exchanges overseas by PNG companies. Most of the companies selected for this study are listed in overseas and PNG listed companies also follow ASX principles in respect of corporate governance.

The environmental disclosure theme, index for ‘no disclosure’ criteria is around 70% and on the other end

‘complete disclosure’ criteria is around 23%. It indicates that environment disclosure is not considered as important CSR component by sample companies.

The index for ‘no disclosure’ criteria under labour practices is around 75% and it is high as environment disclosure index. On the other hand, the complete disclosure index of the same is around 16%. This indicates that some companies have interest on disclosing information on labour practices, staff development and welfare.

Further analysis of statistics in Table 1 and 3 indicate that almost all the companies have neglected the consumer disclosure. As shown in table 3, ‘No disclosure’ index is high as 94% whereas ‘disclosure with no details’ is 6%. The interesting feature is none of the companies has disclosed consumer information with details. This clearly indicates that the company’s responsibility towards the consumers has been ignored. It was found that even the banks and financial institutions, manufacturing, trading and airline companies which are directly dealing with customers have not taken this aspect seriously. On the other hand, a significant portion of the companies included in the sample is involved in production of primary products for overseas market. But this cannot be taken as an excuse not to disclose consumer information.

Under community involvement, ‘no disclosure index’ is 67% and ‘complete disclosure’ index is 18% as per table 3. Table 1 shows that 32% of the expected items under this theme have been disclosed by the sample companies. All in all the above discussion indicates that PNG companies disclose 40% of the items of CSRD expected to disclose although there are variations in disclosure levels. Therefore it can be concluded that PNG companies make variety of CSRD in their annual reports under different disclosure themes and items.

Table 3. CSRD levels wise Analysis

Theme / Disclosure level Criteria	No disclosure %	Disclosure with no details %	Disclosure with details but no evidence %	Complete disclosure %
Corporate governance disclosure	17.78	8.15	6.67	67.41
Environment disclosure	70.00	3.33	4.00	22.67
Labour practices	72.80	4.18	5.44	17.57
Consumer disclosure	94.00	6.00	0.00	0.00
Community involvement disclosure	67.41	7.78	6.67	18.15

Table 4. Theme and Sector Wise Analysis of CSRD

Theme	Sectors					
	Oil and Gas	Trading	Agro-business	Banking and Finance	Mining	Airline
Corporate Governance Disclosure	2.96	1.83	2.22	2.28	2.06	2.11
Environment Disclosure	1.80	1.50	1.33	0.50	0.23	0.00
Labour practices	1.44	1.26	0.41	0.22	0.30	0.00
Consumer disclosure	0.00	0.20	0.00	0.10	0.00	0.00
Community involvement disclosure	1.07	1.94	0.89	0.56	0.15	0.00

4.4. Sector and Theme Wise Analysis

The relationship between industry sectors and disclosure themes are presented in Table 4. It indicates that the corporate governance disclosure index is high in all the sectors. These are the highest values across the sectors. The oil and gas sector reports the highest index (2.96) followed by banking and finance sector (2.28). Environment disclosure index is also high in oil and gas, trading and agri-business sectors whereas other sectors have almost ignored this aspect of disclosures. For example, airline sector index is zero. Index for labour practices is also high in oil and gas sector and trading sector while other sectors report low value including zero in airline sector. According to the table, consumer disclosure index is the lowest in all industry sectors and the index for oil and gas, agro-business, mining and airline sectors is zero. Community involvement disclosure index is high in gas and oil and trading sectors while other sectors illustrate negligible values included zero in airline sector.

All the disclosed indexes for gas and oil, trading and agro-business sectors are high whereas all other industries disclosure index is low or very low for each disclosure theme. An interesting feature revealed from statistics is that all the industry sectors have neglected consumer responsibility disclosures. This confirms the conclusion made in the preceding section. Further, the airline is the worst among all the industry sectors in respect of CSR.

Analysis of Variances (ANOVA) statistical tool was used to identify statistically significant differences in terms of the disclosures among the industry sectors and disclosure themes. Table 5 in Appendix reports the variance analysis summary.

The outcome of the ANOVA analysis reveals that there are significant differences among the sectors in the industry under each disclosure theme. And further analysis was also carried out to identify significant deviations among the sectors. Line graph in Figure 1 in Appendix shows the position of each industry according to mean disclosure. Airline, mining and banking & finance sectors show significant variations within the industry according to the CSR average scores. Further analysis show that not a single sector is closer to the expected mean value of 3.

The ANOVA analysis also reveals that significant deviation among the CSR disclosure themes. Figure 2 shows the relationship between CSR mean positions and different themes on the line graph. The graph clearly depicts that the consumer disclosure has been totally neglected by companies in all the industry sectors. The analysis also reveals most of the companies in all the sectors place more

emphasis on corporate governance disclosure and to some extent environmental disclosures. This may be due to the fact that most of the companies are listed in overseas stock exchanges in addition to POMSoX and some companies listed on POMSoX are also adopting ASX corporate governance principles. Disclosure of environmental information by oil and gas, mining and agro-business sectors may be due to the government regulations and industry specific best practices.

4.5. Regression Analysis

The regression empirical model has been constructed as follows.

$$CSRDL = 1.54 - 0.043i - 0.098i + 1.53s + 0.037p$$

The disclosure levels can be determined on the basis of the given empirical model. The value of 1.54 indicates the CSRDL is close to 1.54 when all the other independent variables equal to zero value. This demonstrates that there is no influence from any other variables.

The coefficient of listing nature is -0.043 and it indicates when CSR level decreases by any additional one unit of listing nature.

The coefficient of Industry type is -0.098 indicates the negative impact on level of disclosures. At the same time the coefficient of asset is 1.53 indicates the every additional 1million value of asset supports to increase the disclosure level. Similarly, coefficient of profitability is 0.037 indicates the increase of every percentage of ROI supports to increase of CSR levels.

In addition, the regression analysis also reveals the "r" value meaning coefficient of determination which is 0.49 or 49% and it indicates that all the independent variables explained or influenced on the dependent variable of CSR level by 49%. It means there are other variables also influence the determination of CSR level which are not covered under this study and it would be around 51%

4.6. Correlation Analysis

The Pearson and Spearman's correlation coefficients are presented in Table 7. It indicates the association among the independent variables under study. According to the table, positive relationship between the variables in terms of association exists between listing nature, industry type (0.5833) and ROA (0.3095), industry type and ROA (0.2591), whilst listing nature listing nature and total assets (-0.2579), industry type and total assets (-0.3873), total assets and ROA and (-0.6234) show negative relationship.

Table 7. Coefficient of Association among the Variables

	Levels	Listing nature	Industry type	Total assets in Kina	ROA
Levels	1				
Listing nature	-0.0358	1			
Industry type	-0.2228	0.5833	1		
Total assets in Kina*	-0.0432	-0.2579	-0.3873	1	
ROA	0.5278	0.3095	0.2591	-0.6234	1

*Kina is the currency used in PNG

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
CSRD	15.7919342	4	3.9479835	23.48666977	2.57E-07	2.866081
Sectors	4.47657979	5	0.895316	5.326260871	0.002851	2.71089
Error	3.361893	20	0.1680947			
Total	23.630407	29				
SUMMARY OUTPUT						
<i>Regression Statistics</i>						
Multiple R			0.73623938			
R Square			0.542048424			
Adjusted R Square			-0.144878939			
Standard Error			0.571804838			
Observations			11			

This result reveals and suggest that company size, profitability, listing nature and industry type influence CSRD and does not support H3.

4.7. Descriptive Data Analysis

Table 8 in Appendix presents the descriptive statistics of the index for each disclosure theme while Table 9 presents descriptive findings about the level of disclosure for each industry sector identified for the study. These two tables were formulated on the basis of the content analysis data. Table 8 shows that minimum and maximum disclosure indexes are 0 and 2.96 respectively. It also reveals that highest index values represent corporate governance disclosure with minimum value of 1.83, maximum of 2.96 and mean value of 2.24. The next highest maximum values represent community involvement (1.94), environment (1.80) and labour practices (1.44) respectively. Further, the consumer disclosure is the least maximum (0.20), minimum (0) and means value (0.05) reported on the table.

According to table 9 in Appendix, minimum and maximum values vary between 0 and 2.96. Oil and gas sector reports highest maximum and mean values with standard deviation of 1.08. The next highest maximum values have been reported by banking and finance (2.28), agro -business (2.22), mining (2.06) and airlines (2.11). The least maximum value represented by trading sector (1.94). Further, the mean

indexes illustrate least disclosure by airline sector (0.42) compared to the highest value by oil and gas sector (1.46).

5. Conclusions

These results suggest that the companies listed in POMS0X disclose variety CSR information under different disclosure themes and items. However, some companies present them poorly. It supports H1. The study reveals that there is no significant difference in disclosure level of CRS information under different disclosure themes and items among the industry types during the reference period for the study. This supports H2. The study also reveals that there is a significant relationship between CSRD level and company characteristics such as size of company, industry type, profitability and nature of listing. This does not support the H3.

6. Recommendations

Like many other countries, there are no laws, regulations or arrangements in PNG to companies to disclose CSR information in annual reports. The company regulations and POMS0X listing requirements are very weak in this respect. This led some companies to disclose CSR information

voluntarily to suit their own agenda. Under these circumstances, it is necessary that the government and other stakeholders should take initiative to encourage CSR in PNG companies. This will benefit both the companies themselves and stakeholders. When drafting rules, regulations and arrangements it is important to include assurance procedures as the current disclosures are not subject to external verification. As a result, the companies make non-verifiable statements which mislead the stakeholders. The professional organisations and the academia could play an important role in this regard to create awareness in the minds of company directors and managers on the subject.

7. Limitations

Finding of this study should be interpreted with caution as it considered CSR in annual reports only. But companies disclose CSR information using multiple documents and media. Further, with the commencement of issuing of sustainability report, some companies may have reduced CSR information included in annual report. Furthermore, majority of listed companies in POMSoX are involved in extractive industry. This has a significant impact on overall results of this study.

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Appendix

Table 5. ANOVA: Two-Factor without Replication

SUMMARY	Count	Sum	Average	Variance
Corporate Governance Disclosure	6	13.46296	2.2438272	0.14806813
Environment Disclosure	6	5.366667	0.8944444	0.554407407
Labour practices Disclosure	6	3.62963	0.6049383	0.355921353
Consumer Disclosure	6	0.3	0.05	0.007
Community involvement Disclosure	6	4.611111	0.7685185	0.502297668
Oil and Gas	5	7.281481	1.4562963	1.163802469
Trading	5	6.737037	1.3474074	0.485043896
Agro- business	5	4.851852	0.9703704	0.741015089
Banking and Finance	5	3.655556	0.7311111	0.783419753
Mining	5	2.733333	0.5466667	0.723817558
Airline	5	2.111111	0.4222222	0.891358025

Table 8. Descriptive Data analysis of CSR by Disclosure Themes

Disclosure Them	Minimum	Maximum	Mean	Std. deviation
Corporate Governance	1.83	2.96	2.24	0.42
Environment	0.00	1.80	0.89	0.67
Labour practices	0.00	1.44	0.60	0.58
Consumer	0.00	0.20	0.05	0.09
Community involvement	0.00	1.94	0.77	0.67

Table 9. Descriptive Data Analysis of CSR by Industry Sectors

Sector	Minimum	Maximum	Mean	Std. deviation
Oil and Gas	0.00	2.96	1.46	1.08
Trading	0.20	1.94	1.35	0.70
Agro - business	0.00	2.22	0.97	0.86
Banking and Finance	0.10	2.28	0.73	0.89
Mining	0.00	2.06	0.55	0.85
Airline	0.00	2.11	0.42	0.94

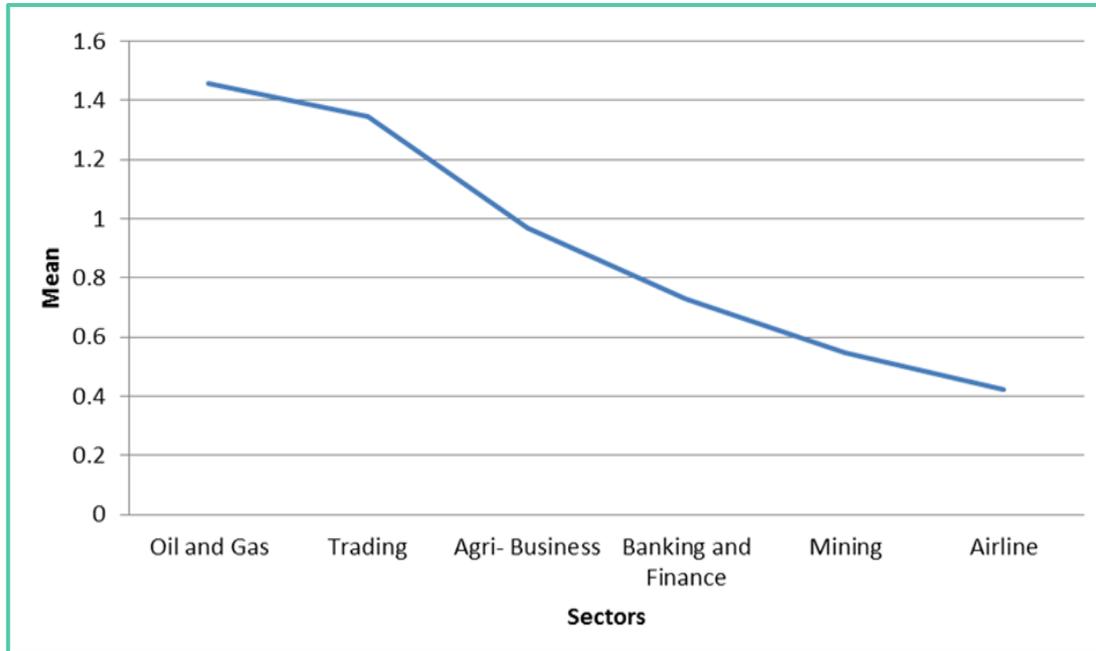


Figure 1. Sector Disclosures Position

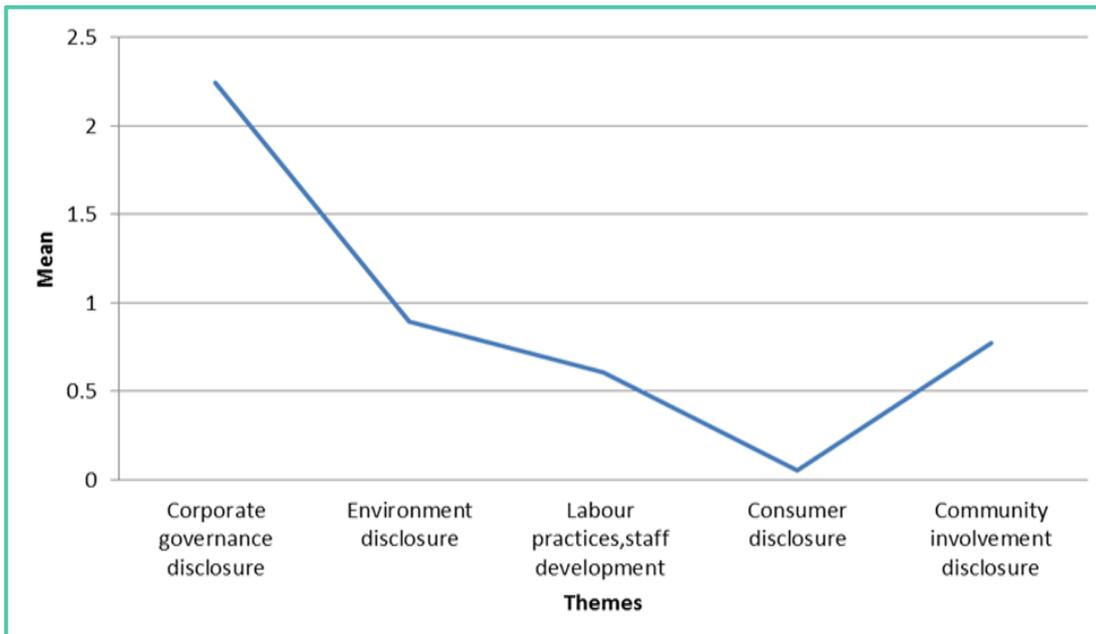


Figure 2. CSRD Themes Positions

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