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Legitimising Corporate Sustainability Reporting Throughout the World

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Cover Page Footnote
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This paper explores corporate sustainability disclosure practices in a global context. A unique sample of 2009 sustainability reports from some of the world's largest companies in 24 diverse countries are examined using a comprehensive disclosure index. These reports are analysed to better understand how company characteristics and institutional factors explain sustainability communication using a legitimacy theory framework. The world renowned Global Reporting Initiative 2006 guidelines are used as the benchmark disclosure index checklist. The empirical results indicate that the average level of sustainability disclosure is a surprisingly high 61.9 percent. Statistical analysis indicates that high profile industries and additional assurance procedures influence the disclosure of more sustainability information. Interestingly, companies operating in emerging country systems disclose more sustainability information than Anglo-Saxon or Communitarian jurisdictions. Consistent with legitimacy theory, these results suggest that these globally well known firms use sustainability disclosure as a legitimising tool.

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JEL Classification: M40

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Introduction

This paper is motivated by the evidence that there has been an increase of sustainability reporting[3] in many world economies (Bebbington, Larrinaga & Moneva 2008). The KPMG International Survey provides data that indicates that sustainability reporting is going more mainstream, with nearly 80 percent of the largest 250 companies from 22 countries issuing stand alone reports, up from about 50 percent in 2005 (KPMG 2008). Yet, sustainability reporting is imbalanced globally. The KPMG survey shows that sustainability reporting in developed countries is higher than developing countries. Interestingly, our study findings add richer insights and different conclusions from the past literature. We note a fundamental shift in the status quo with companies from emerging countries demonstrating higher (not lower) communication levels.

The intensification in sustainability disclosure coincides with an upturn in community concern regarding social and environmental matters and in academic accounting research (Van der Laan Smith, Adhikari, & Tondkar 2005). The growing accounting research in the social and environmental disclosure area has largely focused on the extent and determinants of disclosure in annual reports in a single country setting. However, such disclosure studies evoked the potential for failure to link empirical results to the political, economic or cultural characteristics of broader jurisdictional units (Williams 1999). The primary purpose of this paper is to provide evidence on sustainability disclosure practices globally.

The potential contributions of this paper are threefold. First, this paper concentrates solely on sustainability reports as a data source to capture and analyse sustainability information. Previous studies on social and environmental practices have focused on the more generic annual report. Few cross-country studies have been conducted using sustainability reports. Past studies find that annual reports contain the key information on social and environmental issues. However, as a reporting medium, the annual reports face the limitation in the number of indicators observed and diversity of information provided (Frost et al. 2005). Recent past research has argued that companies now rely more heavily on alternative media to communicate social and environmental information such as discrete sustainability reports (Frost et al. 2005; Ho & Taylor 2007). This paper is important because it provides a deeper analysis of the extent of companies' sustainability disclosure communication in separate stand-alone sustainability reports.

Second, to better explain the extent of sustainability disclosure, this paper investigates how industry type may influence political visibility (Patten 1991) and drive companies to disclose sustainability information in order to mitigate pressures from stakeholders. In addition, 'voluntary' assurance statements play an important role in improving the credibility of disclosed information (Simnett, Vanstraelen & Chua 2009). For instance, over 60 percent of sustainability reports issued by companies in France, Spain, Korea, and Italy incur the extra costs to voluntarily include assurance statements (KPMG 2008). This raises questions about what drives a company to seek assurance statements on sustainability reports. Despite growing demand of such voluntary assurance statements, research on the effect of assurance on sustainability reporting is sparse (Kolk & Perego 2010).

By analysing companies from a large number of diverse countries, this paper also better captures how jurisdictional settings potentially influence corporate reporting regulation (Leuz 2010). This paper posits that corporate governance, in particular board independence and type of business systems, influence companies to adopt voluntary corporate disclosure (Garcia-Meca & Sanchez-Ballesta 2010; Millar et al. 2005). Fundamental differences in the type of business systems comprise a main source of variations in the jurisdictional context with potentially important ramifications on sustainability disclosure and overall corporate communication (Aerts, Cormier & Magnan 2006). Finally, this paper contributes to future research and development in sustainability disclosure by examining the potential effect of legitimacy theory. Legitimacy theory seeks to

[3] Corporate sustainability reporting is variously known as corporate social reporting, corporate responsibility reporting, triple bottom line reporting, corporate, social and environmental reporting.

understand what factors may cause variability in sustainability disclosure and to what extent the variables of interest within an organisation may influence organisational actions in seeking legitimacy (Haniffa & Cooke 2005). Deegan (2002) and Islam and Deegan (2008) argue that corporate disclosure is best explained as a tool for maintaining legitimacy.

Literature Review and Hypotheses Development

Legitimacy theory posits that the legitimacy of a business entity to operate in society depends on an implicit social contract between the business entity and society. Companies can lose their license to operate in society by breaching society's norms and expectations. Accordingly, legitimacy theory predicts that companies adopt environmental and social responsibility reporting to legitimise their operations when society's norms and expectations of the business entities change or the business entities perceive themselves in breach of existing norms and expectations of society (Deegan 2002; Deegan & Blomquist 2006; O'Donovan 2002).

The Global Reporting Initiative (GRI 2006) characterises sustainability as the practice measuring performance on economic, environmental, and social impacts to internal and external stakeholders. KPMG (2008, p.12) uses the term 'corporate responsibility' to describe the ethical, economic, environmental and social impacts and issues that concern the private sector. This paper adopts the definition used by GRI (2006), because it is broader than other definitions in that it encompasses six comprehensive key themes. These important global themes are economic, environment, labour practices and decent work, human rights, society, and product responsibility. This broader definition is also used by Frost et al. (2005) and Clarkson et al. (2008). Frost et al. (2005) argue that GRI is employed as an indicator of the content and scope of sustainability reporting. Since this paper treats sustainability reports as a medium of sustainability disclosure; the GRI definition provides a valuable template to measure a company's sustainability communications (Frost et al. 2005).

The growing accounting research in the social and environmental reporting area within a country has usually focused on the extent and determinants of social voluntary disclosure (see for example Belkaoui & Karpik 1989; Branco & Rodrigues 2008; Clarkson et al. 2008; Cowen, Ferreri & Parker 1987; Hackston & Milne 1996; Haniffa & Cooke 2005; Islam & Deegan 2008; Naser et al. 2006; Ness & Mirza 1991; Nurhayati, Brown & Tower 2006; Reverte, 2009; Roberts 1992; Trotman & Bradley 1981). In the international arena researchers are beginning to examine the institutional factors that influence social voluntary disclosure (see for example Baughn, Bodie & McIntosh 2007; Buhr & Friedman 2001; Chapple & Moon 2005; Holland & Foo 2003; Van der Laan Smith et al. 2005; Xiao et al. 2005; Williams, 1999). These studies indicate that country of origin (Newson & Deegan 2002; Van der Laan Smith et al. 2005), culture and institutional factors (Buhr & Friedman 2001), the stage of a nation's social and economic development (Chapple & Moon 2005; Xiao et al. 2005), and legal and regulatory context (Holland & Foo 2003) are potential important determinants of the level and type of social voluntary disclosure.

Hypotheses Development

Deegan (2002) notes legitimacy theory is widely used to explain social and environmental reporting. Legitimacy theory relies on the notion that the legitimacy of a business entity to operate in society depends on an implicit social contract between the business entity and society (Guthrie & Parker 1989) and they will adopt disclosure strategies to conform to society's expectations (Deegan 2002). Using legitimacy theory it is argued that type of industry can influence political visibility and drives disclosure in order to minimise pressure and criticism from society (Patten 1991). In previous studies, industry type is a common variable employed to explain the content and extent of disclosure (Adams, Hill & Roberts 1998; Cowen et al. 1987; Hackston & Milne 1996; Ness & Mirza 1991; Roberts, 1992; Williams 1999). Overall, more sensitive industries are considered to be those with more risk of being criticised in corporate social responsibility matters because their activities have the perception of higher risk (Reverte 2009). The 'sensitivity' of industries is a consistent theme with legitimacy theory. Roberts (1992) and Hackston & Milne (1996) use a dichotomous classification of high profile and low profile industries[4]. Roberts (1992) defines high profile industries as those with consumer visibility, a high level of political risk or concentrated intense competition. Hackston & Milne (1996) provide evidence that high profile industries disclose significantly more social and environmental information than low profile industries. Based on legitimacy theory tenets it is hypothesised:

H1: Firms in high profile industries will provide higher voluntary disclosure in sustainability reports than firms in low profile industries.

The practice assurance statement in sustainability reports serves as a communication mechanism as it arguably enhances the clarity and reliability of these statements (Deegan, Cooperr & Shelly 2006). Simnett, Vanstraelen & Chua (2009, p.939) posit that companies' purchase of assurance is driven by their objective to increase stakeholder or user confidence in the quality of the sustainability information provided and/or to increase stakeholder trust in the level of organisational commitment to sustainability agendas. Kolk & Perego (2010) argue that the demand of assurance services is significantly influenced by the legal environment in which a firm operates. Moreover, they conclude that the governance mechanism, country level institutional mechanisms, and level of awareness on sustainability issues are factors that are related to adoption of assurance services. In summary, voluntary assurance plays an important role in improving the credibility and transparency of the sustainability information disclosed. This leads to the second hypothesis:

H2: Firms with an assurance statement in their sustainability reports will provide higher voluntary disclosure than firms with no assurance statement.

'Jurisdictional' trait is defined as a particular characteristic of the power or influence that a country or group of similar countries possesses to carry out legal decisions enforce laws and/or affect change to influence firm communication. Several studies in the accounting literature state that jurisdiction traits may make a difference to the pattern of disclosure. There are several factors that impact on disclosure at the national level such as the type of corporate governance systems (Van der Laan Smith et al. 2005), the type of business systems (Buhr & Freedman 2001; Chapple & Moon 2005), the type of legal system and level of enforcement (Williams 1999; Holland & Foo 2003), and the level of economic development (Xiao et al. 2005). Using several institutional factors, this paper focuses on how the type of business environment within various countries affects the company decision to adopt voluntary disclosure policies. Jurisdictional business system of a country is considered an important determinant of strategic transparency (Millar et al. 2005), because it consists of various institutional and cultural factors and strategic transparency is associated with the extent to which information is disclosed (Eldomiaty, Choi & Cheng 2006). Most previous studies on social disclosure tend to only focus on a comparison between shareholders versus stakeholders orientation. As international business systems consist of more than just shareholder and stakeholder structures, it is important to include emerging systems as well.

The broader analysis is consistent with Millar et al. (2005) argument that there are three major types of business systems: Anglo-Saxon, Communitarian and Emerging Market systems. The classification of these systems is based on the characteristics of national culture, legal and regulatory environment relationship, the role of financial institutions and corporate governance systems. In some countries, when the firms reach a certain size they turn to the stock market as their main source of capital. These business systems are characterised as the Anglo-Saxon system (for example US, UK, and Canada). In other countries, the companies still depend on bank financing as their primary source of capital and multi stakeholders (employee, suppliers, government and the

[4] Consistent with past studies, the agriculture, forest and paper, automobile, airlines, mining, metal, oil, utilities, chemicals, banking and finance industries are classified as high profile industries. The consumer goods, construction and property, service, food, retail, and other industries are included as low profile industries (Hackston & Milne, 1996; Roberts, 1992, and Newson & Deegan (2002).

community) these are characterised within the Communitarian system. Germany, France and Switzerland are countries with Communitarian systems. In many emerging countries (often in Asia), companies tend to be dominated by family owners and have weaker investor protection. These are characterised as being within emerging systems' jurisdictions.

Given this categorical distinction, Van der Laan Smith et al. (2005) argue that firms from countries with stronger emphasis on social issues and which place more emphasis on their multi stakeholder will have a higher of level and quality of social disclosure than firms from countries with a weaker emphasis on social issues and dominated by shareholders. Millar et al. (2005) note that the Anglo-Saxon business system is characterised by the expectation of a high degree of information disclosure, while Communitarian and emerging business systems are more likely to provide limited information disclosure and lack transparency consistent with lower legitimacy tenets. Based on these arguments, it is hypothesised that there is a relationship between type of business system and the extent of sustainability disclosure.

H3: There is an association between type of 'jurisdictional' business system and the extent of voluntary disclosure in sustainability reports.

The empirical governance literature suggests that the degree of board involvement is related to composition and independence. Importantly, it is argued that it will elevate board effectiveness (Said, Zainuddin & Haron 2009) and encourage voluntary disclosure (Garcia-Meca & Sanchez-Ballesta 2010). In this paper, the proportion of independent non-executive director is used as a proxy of better corporate governance characteristics. Directors who are more independent to the management may be more likely to encourage the disclosure of more sustainability information. Consequently, a higher percentage of independent directors in the board arguably results in greater communication (Haniffa & Cooke 2005).

The presence of independent directors in the board composition may strengthen the public perception of corporate legitimacy. The public may value an entity highly if it has a high level of independent directors on the board because such a condition might signify a more effective board in supervising the management activities (Nurhayati et al. 2006). Independent directors also play an important role in enhancing corporate image and act as a monitoring role in ensuring that companies are properly managed by their management (Said et al. 2009). The final hypothesis states:

H4: There is an association between board independence and the extent of voluntary disclosure in sustainability reports.

These four hypotheses will be statistically tested using multiple regression analysis as documented in the following section.

Research Approach

The data collected for this paper is sourced from 125 public companies from 24 separate countries. This paper uses the official GRI list of companies supplying stand-alone sustainability reports (retrieved on the 6th October 2010) to derive a comprehensive sample. The companies are selected based on stratified proportional random sampling. The sample companies meet the following criteria:

1. Data encompasses 2009 activities.
2. There is a 2009 stand-alone sustainability report.
3. The sustainability report is written in the English language.
4. All companies are publically listed and are the parent entity in their home country

In total, the GRI website shows 1421 firms (representing 59 countries) submitted a 2009 sustainability report. Of these 1421 firms, 183 reports are excluded because they are not stand-alone reports (integrated/combined report), an additional 393 reports are excluded because they are not written in English, 254 non public and parent companies are excluded due to a lack of complete financial data, finally 48 companies from 34 countries with very low sample numbers (less than 3 companies) are excluded. This leads to a final available population of 541 sustainability reports from 24 diverse countries from around the world. From this population, a final selection of 125 sustainability reports is utilised representing over 20 percent of the available population.

Data sources for firm characteristics; size, board independence, return on assets and leverage are extracted from each company's annual reports. Industry sectors in the Global Industry Classification Standard (GICS) are used to initially classify industry type, these are then dichotomously categorised as high or low profile industries.

Measurement of Variables

Sustainability Disclosure Index (SDI)

In this paper**,** the extent of sustainability disclosure is the dependent variable. The Sustainability Disclosure Index (SDI) score is calculated through use of the globally-respected GRI 2006 guidelines. The GRI reporting guidelines contain 79 items that comprehensively reflect the spirit of sustainability reporting. The 79 items are from three main GRI-based categories: economic (9 items), environmental (30 items), and social (40 items).

Consistent with past studies, the SDI is calculated as a dichotomous equally weighted index on a 0-100% scale. This technique is considered less subjective than a weighted index and is more relevant to companies (Cooke 1989; Meek, Roberts & Gray 1995). All items are equally weighted and each of the 79 possible items that are disclosed is awarded a score of 1 (and if not disclosed a score of 0 is given). Items are removed from the equation when they are clearly not applicable. Marston and Shrives (1991) in their review of the disclosure index literature, report that a wide variety of studies have adopted such a disclosure index as a mechanism to measure the extent of disclosure. Table 1 outlines the measurement of the dependent, independent, and control variables.

Table 1
Variables and measurement

Variables	Measurement
Dependent:	
Sustainability Disclosure Index (SDI)	Unweighted Sustainability Disclosure Index
Independent:	
Industry Type (IT)	1 = high profile and 0 = low profile
Presence of Assurance (PA)	1 = assured and 0 = not assured
Business System (BS)	BS_1 = Communitarian, BS_2 = Emerging Market BS_3 = Anglo-Saxon
Board Independence (Board)	Proportion of independent non-executive directors to total directors
Control:	
Size (Size)	Total assets
ROA (ROA)	Total net profit divided by total assets
Leverage (LEV)	Book value of total debt divided by total assets

This study employs several statistical techniques to test the hypotheses. *Independent sample t-tests* and ANOVA are used to statistically test the extent of sustainability disclosure between industry profile, level of assurance, and type of business systems. *Ordinary Least Squares* (OLS) regressions test the associations between the dependent and predictor variables. The regression models are defined in the following equation:

$$SDI = \beta_0 + \beta_1 IT + \beta_2 PA + \beta_3 BS1 + \beta_4 BS2 + \beta_5 BS3 + \beta_6 Board + \beta_7 Size + \beta_8 ROA + \beta_9 LEV + \varepsilon_{it}$$

Where:
SDI = social disclosure index
IT = industry type
PA = presence of assurance
BS1 = communitarian
BS2 = emerging market
BS3 = Anglo-Saxon
Board = independence of board director
Size = firm size
ROA = return on assets
LEV = leverage
$\beta 0 \ldots \beta 9$ = coefficient to be estimated
ε_i = disturbance term

Findings

Descriptive Analysis

Table 2 shows the descriptive statistics of the companies per country. With regards to industry type, 56 percent of the firms in the sample are classified as high profile while 44 percent are low profile. Table 2 also reveals that 53.6 percent of these firms have voluntary assurance statements in their sustainability reports[5]. Of the 125 firms from 24 countries, 80 firms or 64 percent are classified as a country with Communitarian systems, 24 firms or 19.2 percent are included as firms in Emerging market systems, 21 firms or 16.8 percent are categorised as Anglo-Saxon system.

Table 2 reveals that firms from the Emerging market jurisdictions have the highest overall mean of SDI (70 percent). This category includes companies from Malaysia (83.8 percent), China (69.3 percent), Brazil (68.3 percent) and South Africa (58.6 percent). The overall mean of SDI of Communitarian jurisdictions business systems is the second highest (60.7 percent) with South Korean firms leading the pack (SDI of 82.7 percent) followed by Spain (79.7 percent), Germany (76.6 percent) and Italy (75 percent).

[5] This high level of voluntary assurance statement is consistent with the KPMG (2008) finding that 39 percent N100 companies and 40 percent G250 companies included an additional formal assurance statement in their sustainability reports.

Table 2

Descriptive statistics per country

Jurisdiction Business System	Country	SDI (%)	Economic (%)	Environmental (%)	Social (%)	Firms (%)	HP (%)	LP (%)	Assured (%)	Not Assured (%)
	Malaysia	83.8	94.4	70	86.9	3.2	0.8	2.4	2.4	0.8
	China	69.3	84.4	58	57.5	4	2.4	1.6	2.4	1.6
Emerging Market	Brazil	68.3	70.8	65.4	68.8	6.4	5.6	0.8	4.8	1.6
	South Africa	58.6	85.7	60	68.6	5.6	4.8	0.8	3.2	2.4
Mean (Total)		***70***	***83.7***	***63.4***	***70.4***	***(19.2)***	***(13.6)***	***(5.6)***	***(12.8)***	***(6.4)***
	South Korea	82.7	83.3	72.5	88.8	3.2	2.4	0.8	2.4	0.8
	Spain	79.7	90.7	81.1	82.1	4.8	4.8	0	4.8	0
	Germany	76.6	77.8	67.3	75	4	0.8	3.2	1.6	2.4
	Italy	75	80	65.3	72	4	1.6	2.4	2.4	1.6
	Austria	72.8	88.9	70.1	70	3.2	2.4	0.8	3.2	0
	Switzerland	69.2	75.9	54.4	68.3	4.8	0.8	4	2.4	2.4
Communitarian	Sweden	67.8	64.8	56.1	60.4	4.8	1.6	3.2	1.6	3.2
	Portugal	65.2	66.7	54.4	57.9	4.8	2.4	2.4	3.2	1.6
	Belgium	58.3	40.7	30	28.3	2.4	0	2.4	0.8	1.6
	Finland	52.6	40	45.3	48.5	4	4	0	0.8	3.2
	Netherland	52.6	48.9	42.7	32.5	4	1.6	2.4	1.6	2.4
	Norway	47.7	44.4	28	41.5	4	1.6	2.4	0.8	3.2
	Denmark	45.7	28.9	60.7	38	4	4	0	1.6	2.4
	France	43.8	50	59.4	51.3	4.8	1.6	3.2	2.4	2.4
	Japan	43.2	29.6	50.6	29.6	4.8	3.2	1.6	1.6	3.2
	Singapore	37.5	37	48.9	26.7	2.4	0	2.4	2.4	0
Mean (Total)		***60.7***	***59.2***	***55.5***	***54.4***	***(64)***	***(32.8)***	***(31.2)***	***(33.6)***	***(30.4)***
	Canada	59.8	69.4	53.3	51.3	4.8	4	0.8	4	0.8
Anglo-Saxon	United Kingdom	58.7	70.4	62.8	52.9	4.8	4	0.8	4	0.8
	Australia	55.2	55.6	60	50	4	2.4	1.6	1.6	2.4
	United States	47	55.6	48.3	37.1	4.8	1.6	3.2	0.8	4
Mean (Total)		***55.2***	***62.7***	***56.1***	***47.8***	***(16.8)***	***(9.6)***	***(7.2)***	***(7.2)***	***(9.6)***
Mean (Total)	***(N = 24)***	***61.9***	***68.6***	***58.3***	***57.6***	***(100)***	***(56)***	***(44)***	***(53.6)***	***(46.4)***

*HP = high profile industries, **LP = low profile industries

Table 3 provides the descriptive statistics for the continuous variables. The mean (median) of the sustainability disclosure index (SDI) is 61.9 percent (62 percent) which indicates that these large global companies communicate almost two thirds of the total benchmark sustainability disclosure items. This result is consistent with predictions that the extent of sustainability disclosure in sustainability reports is higher than in annual reports[6]. It also supports the decision to focus solely on sustainability reports.

Table 3

Descriptive statistics

Variables	Mean	Median	Std Dev	Min	Max
SDI (%)	61.9	62	21.1	16.7	100
Board Independence (%)	61.6	61.5	21.4	15.3	92.8
Size (billion USD)	54	10.6	16.2	6	1,000
Size (log)	9.9	10	0.8	6.7	12.1
ROA (%)	4.2	2.9	8.1	-19.2	46.1
Leverage (%)	56.7	57.4	21.1	0.6	95.6

Table 3 shows that the average company board independence is high at 61.6 percent[7]. The mean of firm size is 54 billion with a median of 10.6 billion US dollars. The large gap between mean and median indicates that firm size possesses some extreme valued and is skewed[8]. Both figures highlight the enormous average size of the sample companies. The result indicates that large firms may be more motivated to legitimise their activities to a global audience. The mean of return on assets (ROA) and leverage ratio is 4.2 percent, and 56.6 percent respectively.

The *Independent Samples t-tests* (see Table 4) indicate that there are significant differences across high profile and low profile industries ($t = 3.109$; p-value = 0.002) with respect to the sustainability disclosure index (SDI). Consistent with legitimacy theory, this finding implies that firms in high profile industries provided statistically more sustainability information compared with firms in low profile industries. This finding is consistent with Roberts (1992), Hackston & Milne (1996), Patten (1991), and Reverte (2009). The presence of the extra voluntary assurance report variable also highlights a similar result ($t = 2.677$; p-value = 0.008) that there are significant differences between assured and not assured sustainability reports in regards to sustainability communication (Table 4 panel A). Firms

[6] Ho & Taylor (2007) and Haniffa & Cooke (2005) find the level of disclosure index in annual reports as 26.4 percent and 17.1 percent respectively while Michelon & Parbonetti (2010) calculate their disclosure index in annual reports as 19.5 percent but far higher in sustainability reports (49.1 percent).

[7] Raheja (2005) argues that ideally the proportion of independent directors is 50 percent. Boone et al. (2007) report the proportion of independent directors in their study is 69 percent.

[8] For regression analysis, firm size is logged to reduce the skewness. This study also conducted outlier tests (Mahalanobis and Cooke Distance) showing no concerns with outliers.

with extra voluntary assurance statements on their sustainability reports are more likely to disclose sustainability information[9].

Table 4
Independent samples t-tests and ANOVA

Panel A

Disclosure Index	Mean	t-value	p-value
Industry Type		3.109	0.002
High Profile	67.3		
Low Profile	55.9		
Presence of Assurance		2.677	0.008
Assured	65.9		
Not Assured	56		

Panel B

		F	p-value
Levene's Test of Equality of Error Variance		0.875	0.419
Tests of Between Subjects Effects		2.381	0.097
Multiple Comparisons: (Tukey HSD)	Business System Types	Mean Differences	p-value
Communitarian	Emerging Market	-0.07172	0.306
	Anglo-Saxon	0.06382	0.429
Emerging Market	Communitarian	0.07172	0.306
	Anglo-Saxon	0.13555	0.080
Anglo-Saxon	Communitarian	-0.06382	0.429
	Emerging Market	-0.13555	0.080

The results of ANOVA (see Table 4, panel B) also show that there is a significant relationship between sustainability disclosure with business systems (F = 2.381 and p-value = 0.097). As illustrated in the additional Tukey HSD test, there are statistically significant mean differences between Emerging and Anglo-Saxon systems but little difference of means exists between Emerging market and Communitarian systems. The result indicates that sustainability disclosure of firms from emerging market jurisdiction is higher as compared to Anglo-Saxon country firms. This surprising result may be changes in the status quo in that large companies from emerging nations are leading the charge of legitimising their business activities to an ever shrinking global audience.

[9] To check the robustness of the result, this study also conducts additional independent t-tests to assess whether any significant differences exist between the mean of the presence of assurance in high and low profile industries. Consistent with the result in Table 4, sustainability disclosure in the presence of a voluntary assurance statement is higher in both high profile and low profile industries than those without the extra assurance.

Multivariate Analysis

Table 5 presents the multiple regression results for the 125 companies in the global sample. The result is consistent with the independent sample t-test and supports the hypothesis that firms in high profile industries tend to disclose more sustainability information compared to firms in low profile industries (p-value = 0.002). Similarly, the presence of an extra voluntary statement is also a significant and statistically positive relationship (p value = 0.017) with sustainability disclosure index (SDI).

Table 5
Results on multiple regression analysis

Variables	Predicted Sign	Coefficient	t-value	p-value
Intercept		0.389	1.733	0.086*
Hypotheses:				
H1: Industry	+	0.132	3.504	0.001***
H2: Assurance	+	0.036	2.431	0.017**
H3 =Communitarian	±	0.093	1.848	0.067*
H3 =Emerging Market	±	0.138	2.177	0.031**
H4: Board Independence	+	0.138	1.541	0.126
Control Variables:				
Size	+	-0.014	-0.056	0.538
ROA	+	0.324	1.341	0.183
Leverage	-	0.120	1.223	0.224
Adjusted R^2		0.131		
F-value		3.330		
Prob. (F)		0.002		

Statistical significance at level *** (1%); ** (5%); * (10%). Anglo-Saxon is excluded

The Table 5 results also show that type of business systems is associated with SDI. Emerging market system is positively and significant at p-value < 0.05, and the Communitarian system is also positively and significant at the < 0.10 p-value level. Firms in emerging market jurisdictions have higher sustainability disclosure index than firms in Communitarian and Anglo-Saxon countries (Table 4). Interestingly, board independence is not a significant predictor for sustainability communication. The control variables of size, ROA, and leverage are also not statistically significant for SDI.

Overall, the regression results in Table 4 lead to the following conclusions:

- The findings support H1 legitimacy tenets, firms in high profile industries tend to disclose more sustainability information than those in low profile industries.
- H2 is also supported. This study finds that firms that make the effort to pay for and include additional voluntary assurance statements do provide more sustainability information. This result is again consistent with legitimacy theory that firms voluntarily purchase additional assurance services in order to enhance their reputation.
- The regression results also show that there is an association between SDI and type of business systems, with surprising results for companies in Emerging systems countries. Emerging market companies disclose higher sustainability communications compared to those in Communitarian and Anglo-Saxon jurisdictions. Based on the results, H3 is supported. This finding is important because most past studies find that level of voluntary disclosure in emerging countries (mostly in Asia) is low. This result may be revealing a fundamental shift

in disclosure as Millar et al. (2005) note that in the past emerging countries were typically characterised by their lack of transparency.

- H4 is rejected. The result does not find any association between board independence and SDI. The regression results indicate that the corporate governance system, particularly the percentage of independent non-executive directors does not have a differential impact in influencing these very large firms' sustainability communication.

Implication and Conclusions

This study provides evidence on corporate sustainability disclosure practices and factors that influence disclosures in globally prominent companies across 24 diverse countries. Our unique data set comes from the GRI website which is a worldwide data benchmark source whose companies listed are arguably some of the biggest global advocates of superior reporting of economic, environmental, and social issues in sustainability reports.

There are several key contributions of this study. First, it focuses solely on sustainability reports as a better media source to capture and analyse the sustainability information, and to advance a greater and deeper comprehending of the extent of companies' sustainability disclosure details in sustainability reports. Second, it explores the role of additional voluntary assurance reports to improve the credibility of disclosed information. Third, it looks at companies throughout the globe using a rich data set of 24 diverse countries with different business systems rather than merely looking at the sustainability disclosure made by companies in a single jurisdiction.

The results of this study indicate that firms in a high profile industry and those that include an additional assurance statement have greater levels of sustainability information communication. These findings are consistent with past studies regarding the relationship between high profile industry and disclosure (see for example Adams et al. 1998; Hackston & Milne 1996; Haniffa & Cooke 2005; Ho & Taylor 2007; Reverte, 2009). As explained by legitimacy theory, high profile industries may be making more sustainability disclosure to improve their accountability and visibility. Under legitimacy tenets the nature of industry type potentially affects sustainability disclosure; the influence of industry type on disclosure may depend on how critical the company feels their economic activities impact on society (Haniffa & Cooke 2005). It is argued that higher profile industries have a bigger effect on their communities and therefore normally have a broader group of stakeholders to satisfy (Adams et al. 1998; Hackston & Milne 1996; Haniffa & Cooke 2005; Reverte 2009).

There is evidence that firms with additional voluntary outside assurance statements provide a higher extent of sustainability disclosure compared with firms without such assurance statement. This result is consistent with the argument that companies purchase assurance service to increase stakeholder and user confidence regarding the quality of sustainability information (Simnett et al. 2009). This finding is also in line with Deegan et al. (2006) and Kolk & Perego (2010) position that assurance statement may enhance the clarity and reliability of the sustainability information disclosed. From the legitimacy perspective, the adoption of such voluntary assurance statements may lift the reputation of companies and strengthen and legitimise their social responsibility activities.

The jurisdictional type of business system is statistically significant. These findings support the past studies that institutional factors, in particular business systems, are a key factor in the implementation of quality global reporting. The types of legal and institutional country structures help explain why corporate reporting differs (Garcia-Meca & Sanchez-Bellasta 2010; Leuz 2010). However, our findings reveal the possibility of a fundamental shift. Large global firms from 'emerging' areas communicate higher (not lower) levels of sustainability data. This changing scenario may be reflecting these firms' greater desire to be seen to be world's best practice advocates.

Finally, the relationship between sustainability disclosure and board independence is not consistent with Haniffa & Cooke (2005), Said et al. (2009), Nurhayati et al. (2006), and Garcia-Meca & Sanchez-Bellasta (2010) results. Our finding fails to provide evidence that board independence contributes to increases in sustainability disclosure. This may be a reflection of the usually strong firm 'governance' presence in our sample frame. Our sample contains many of the largest companies in the world. These are companies that may already have strong corporate governance systems. For instance, Table 2 shows that these firms average over 61 percent independent directors on their boards. These globally, stronger corporate governance systems may have in the past already increased sustainability reporting communication for their firms to what they see as an equilibrium level.

Overall, the findings of this study are consistent with legitimacy theory that predicts firms disclose their sustainability activities to legitimise their operations (Deegan 2002). High profile industries disclose more sustainability information in order to minimise pressure and criticism from society (Patten 1991) and respond to the information needs of stakeholders who wish to know the risks from firm's activities (Hackston & Milne 1996). Types of business systems are also associated with sustainability disclosure. Interestingly, the result shows that sustainability disclosure in emerging countries is higher than Communitarian and Anglo-Saxon jurisdictions. From the legitimacy lens, this result implies that the emerging-style developing countries are now placing greater emphasis on sustainability disclosure to better address stakeholder holistic expectations in order to attract capital and build a more successful business image.

Future research is recommended to further our understanding of sustainability disclosures. A longitudinal data set could explore sustainability communication over periods of differing economic conditions (e.g. firms now beginning to recover from the Global Financial Crisis). In addition, other more qualitatively-oriented research techniques could be employed to obtain interview and focus group style data from key senior corporate managers to better understand their constraints and incentives to communicate sustainability information.

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