QUALITY DISCLOSURE IN SUSTAINABILITY REPORTING: EVIDENCE FROM UNIVERSITIES*

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Abstract

Attention towards sustainability reporting is very high with reference to higher education. The paper aims to assess the maturity level of sustainability reporting and to measure its quality by evaluating the Global Reporting Initiative (GRI) indicators currently disclosed. The research was carried out using the inductive method. We delimited the study to universities and we evaluated the quality of sustainability reporting by analyzing the indicators disclosed in 2012 reports according to GRI guidelines. The research gives an overview of sustainability reporting in universities by evaluating the quality level of their disclosure. The results confirm previous research by highlighting the necessity to improve sustainability reporting. Moreover, the results show there are differences between universities that are connected to the peculiarities of each country. They also enable us to draw up an initial classification of universities. The paper provides one of the first in-depth studies of sustainability reporting quality for universities included in the GRI database.

Keywords: sustainability reporting, GRI indicators, universities, quality assessment.

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1. Introduction

Sustainability is a global issue (Dryzek, 1997). In the last few years, sustainable development has become one of the dominant global discourses of ecological concern. In this context, universities can play a critical role (Orr, 1992, p. 4).

Various organizations around the world define sustainability differently (Elliot, 2013, pp. 18-19), however the most frequently quoted definition is from the World Commission on Environment and Development (WCED, 1987, p. 43): sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is not brought about by policies only – it must be taken up by society at large as a principle guiding the many choices each citizen makes every day, as well as the big political and economic decisions. In other words, sustainable development concerns economic and social structures (Council of the European Union, 2006).

Over the last few years, sustainability reporting has been acquiring increasing importance among corporations and their stakeholders around the world (International Integrated Reporting Committee, 2011). Also in the higher education sector, reporting for sustainability is an increasingly important issue (Walton *et al.*, 1997). Universities use resources, own large areas of land and innumerable buildings and they are fundamental for the development of the economy (Zilahy and Husingh, 2009). In other words, they occupy a unique position, being responsible for the education and training of future generations.

In the light of these considerations, Taylor *et al.* (1994) called universities 'silent destroyers' – not as high profile as chemical companies but with very considerable environmental impact. Moreover, formal education should be recognized as critical in forming environmental and ethical awareness, values, attitudes, skills and behavior (Johnston *et al.*, 2003, p. 7; Lemons, 1995). Previous studies underlined that there was a broad consensus on common priorities, encouraging universities to take up the challenge of addressing environmental responsibility (Yale University, 1994; Walton, Alabaster and Jones, 2000). Now the development of methods and means of improving the role of universities in spreading sustainability issues is needed more than ever (Sedlacek, 2013). However, while universities recognize they have a central role in promoting environmental citizenship across all disciplines and thus all professions, expertise and resources are often not developed or disseminated, remaining trapped in individual institutions or even within individual departments (Beringer, Wright and Malone, 2008). The education sector accounted for less than 0.75% of 2007's global reporting output (CorporateRegister, 2008, p. 10) and few studies are addressing the perspectives of sustainability reporting in universities (Fonseca *et al.*, 2011; Johnston *et al.*, 2003; Newport, Chesnes and Lindne., 2003; Walton, Alabaster and Jones, 2000). Moreover, we are not aware of any studies currently engaged in international comparison of social reporting by universities.

The present study aims to show the state of sustainability reporting in higher education and to give an assessment of the reports' quality. To that end, it provides an

analysis of the extent of reports issued by universities in order to underline their main features and to contribute to the international debate about the development of sustainability reporting in the public sector.

The paper has four sections. The section below describes the theoretical framework regarding the state of sustainability reporting in higher education. Section three highlights studies concerning quality in sustainability reporting. The methodology is explained in section four. Section five presents the results and implications of the analysis and section six sets out the final conclusions, limits and possible future research developments.

2. Studies into the quality of Annual Sustainability Reports

Many authors (Atkinson, 2000; Beloff, Tanzil and Lines, 2004; Szekely and Knirsch, 2005; Tanzil and Beloff, 2006) have made general evaluations of the notion of corporate sustainability performance measurement, while others have considered more specific issues such as environmental and social performance evaluation (Olsthoorn *et al.*, 2001; Wood, 2010).

In recognition of the wide variety of material that appears in sustainability reports, there have been a number of studies focusing on sustainability reporting practices, including the content, scope and structure of the reports (Beloe *et al.*, 2006). National-level studies have also been carried out in numerous countries over the last 10 years. Differences in sustainability reporting were underlined by Doh and Guay (2006), and they were explained by concluding that social democratic traditions in Europe, compared to those in the USA, have resulted in more external pressures on European companies regarding sustainability reporting issues. Also, in European companies, internal aspects of sustainability reporting (association, vocational education, fair wages, equal opportunities and non-discrimination) are well covered by all countries with the exception of human rights, while external aspects (local safety, suppliers, human rights, child labor, labor standards, ethics, indigenous people, fair trade, stakeholders, education, third parties, reporting) present a more mixed picture within Europe (Welford, 2005). In some countries, universities are very keen to address sustainability issues, which are also used in 'political slogans' (Yang, 2008).

The majority of studies have focused on assessing the quality of sustainability disclosure by evaluating the sustainability reporting of Stock Exchange listed companies. Authors utilized various methods of analysis: content analysis, benchmarking analysis, case studies and so on. The studies showed that the quality of sustainability reporting depends on qualitative and quantitative information, and on the extent to which the company has managed to improve its economic, environmental and social effectiveness and efficiency in the reporting period (Daub, 2007). Previous studies on sustainability reporting quality reached common conclusions: that their quality is quite far from acceptable levels, and questions remain on the quality of the information, according to the different needs of different stakeholders (Daub, 2007). Moreover, the insufficiency of social disclosures will eventually change due to external

media pressure, especially in developing countries (Yang and Yaacob, 2012). Most publications on sustainability performance measurement have focused on the design of sets of indicators (Spangenberg, 2002). Research into indicators and indices has focused on both the individual corporation and sector levels. Searcy (2012) pointed out that previous research has focused on short time horizons in evaluating sustainability indicators and this is a particularly serious oversight, given the explicit long-term focus of sustainability (Lenzen *et al.*, 2004).

Little research has been conducted on the indicators used to convey quantitative information in sustainability reports, yet, as Daub (2007) explains, indicators represent the concrete data on the corporation's performance with respect to sustainability, and thus are considered at least as important as the qualitative part of sustainability reporting. Other examples of studies into indicators are those of Adams and Frost (2008) who highlighted the importance of including key performance indicators for sustainability reporting, but few studies have explored the specific indicators disclosed.

In the university sector, sustainability reporting continues to receive little attention either in literature or in practice and most studies are of a normative nature (del Sordo, Pazzi and Siboni, 2010). Research highlights that the practice of sustainability reporting in the university context is not widespread, and the sustainability reports issued are mainly pivotal versions (Frey, Melis and Vagnoni, 2010). Moreover, a lack of quantitative information and little attention to the disclosure of environmental aspects were found (Cassone and Zaccarella, 2009). Nowadays, universities have no legal requirement of disclosure regarding sustainability reporting issues.

The Global Reporting Initiative (GRI) contains the reporting guidelines most commonly used by international companies, even though these guidelines do not make for standardization of reporting (Morhardt, Baird and Freeman, 2002). In fact, GRI guidelines do not require companies to fulfil or handle all topics. The aim of GRI is to mainstream 'disclosure on environmental, social and governance performance' (GRI, 2011a). Thus, companies are free to choose from the guidelines in any way they prefer, and this contributes to the difficulty of assessing social reporting quality.

The generic indicators developed by GRI have been criticized on several grounds, including for being overly general and too numerous (Moneva *et al.*, 2006; Smith and Lessen, 2009). However, many criticisms derive from the analysis of specific sectors, while comparisons between different countries require standardized indicators, such as those of GRI (Verschoor, 2011).

In general, previous studies highlight that the most commonly reported source for the content of social and environmental disclosures is the GRI (KPMG, 2013). Newport, Chesnes and Lindner (2003) underlined that if a university wants to benchmark its sustainability performance, it has to compare itself by using GRI indicators, as most other existing instruments suffer from egocentrism and/or lack of comparability. Moreover, no previous studies made a comparison between differences in sustainability reporting quality by assessing GRI indicators in different countries. Given the

above, if we want to measure the quality of information of higher education sustainability annual reporting, we can refer to GRI indicators of quality in sustainability reports, defined in its Framework as Application Levels A, B, or C, depending on the number and set of disclosures addressed by the organizations (Romolini, Fissi and Gori, 2014).

Since Italian universities use the Gruppo di Studio per il Bilancio Sociale (Study Group on Social Reporting – GBS) standard, it is not possible to compare their sustainability reports with those of other countries (GBS, 2008). The same problem arises if we consider a specific nation, but as our aim is to make an international comparison it is necessary to identify comparable sustainability reporting systems.

A recent study (Fonseca *et al.*, 2011) analyzed the sustainability reporting in Canadian universities focusing on GRI indicators. According to the results, sustainability reporting is at an early stage and reports have limited value and are potentially misleading, moreover only few universities (less than 30%) disclosed sustainability performance by emphasizing eco-efficiency and green architecture. Moreover, previous studies highlight that few universities have external assurance and consequently reports have a limited value and are potentially misleading as a tool to inform sustainability-oriented decisions (Walton *et al.*, 1997). Another frequent problem of sustainability reporting in higher education is connected with the discontinuity in drawing up reports (Ricci, 2013).

3. The state of sustainability reporting in higher education

Attention towards sustainability reporting is very high in Europe and America, but also in developing countries (United Nations Environment Program – UNEP, 2010; United Nations, 2007). In recognition of the wide variety of material that appears in corporate sustainability reports, there have been a number of studies focusing on sustainability reporting practices, including the content, scope and structure of the reports (Beloe *et al.*, 2006; Manetti, 2011; Slater, 2008; Stakeholder Research Associates Canada, United Nations Environment Programme and AccountAbility, 2005). National-level studies have also been carried out in numerous countries over the last 10 years, including Austria (Langer, 2006), Bangladesh (Sobhani, Amran and Zainuddin, 2009), Canada (Davis and Searcy, 2010), Germany (Gamerschlag, Möller and Verbeeten, 2011), Greece (Skouloudis, Evangelinos and Kourmousis, 2010), Italy (Perrini, Pogutz and Tencati, 2006; Secchi, 2006), Norway (Vormedal and Ruud, 2009), Sweden (Hedberg and Von Malmborg, 2003), Switzerland (Stiller and Daub, 2007) and Thailand (Ratanajongkol, Davey and Low, 2006).

The role of education in promoting sustainability has been emphasized by international environmental education declarations, such as the Belgrade Charter (UNESCO-UNEP, 1975) and the Tbilisi Declaration (UNESCO-UNEP, 1977). However, specific declarations for higher education started to emerge in the early 1990s (Wright, 2004). These declarations stated the moral responsibility of higher education towards green education.

Whether at national or international level, studies of sustainability reporting in universities concentrate on normative or empirical aspects, focusing on illustrating case studies (del Sordo, Pazzi and Siboni, 2010). Indeed, consideration of the state of implementation of sustainability policies often derives precisely from analysis of a single case study (Christensen *et al.*, 2009; Sedlacek, 2013; Walton, Alabaster and Jones, 2000).

While a great heterogeneity of solutions is used by universities for social reporting, there seems to be general consensus regarding the contents of reports. On this point, Neumann and Guthrie (2004) state that an effective system of measurement and reporting for universities should be based on financial information, relating to intellectual capital and social and environmental performance. Coy and Pratt (1998), who focus their research on New Zealand universities, underline the importance of accountability that also gives information regarding the university's use of financial resources.

With reference to research into case studies, a common denominator is represented by the doubt as to whether these initiatives have been effective. How well the university sector is progressing towards sustainability remains a conundrum (Ricci, 2013; Walton, Alabaster and Jones, 2000; Wright, 2003). In this context, it is important to test a method for scoring sustainability reporting in higher education (Shriberg, 2004, pp. 75-77).

The studies into sustainability reporting in universities are mainly focused on the link between university and stakeholder (Brown and Cloke, 2009; Jongbloed *et al.*, 2008) or on the content of teaching dedicated to sustainability issues (Idowu, 2008; Matten and Moon, 2004). Few studies analyze the sustainability reporting system of higher education in general terms (Beringer, Wright and Malone, 2008).

In fact, comparative studies of sustainability reporting in general are relatively rare (Williams and Aguilera, 2008), while theoretical perspectives on corporate sustainability performance or stakeholder management have been developed for over two decades (Freeman, 1984; Clarkson, 1995; McWilliams and Siegel, 2000). It is only in the last decade that studies have begun to explore differences in sustainability reporting from a comparative perspective. Comparative studies on legal and institutional analysis compared the perspectives and strategies of sustainability reporting inherent in different corporate governance systems, for example, comparing Anglo-American to Continental European approaches to sustainability issues (Scott, 2004; Doh and Guay, 2006). Other studies aimed to show differences in companies' approaches to sustainability reporting in countries with seemingly similar socio-political traditions within these corporate governance systems (Kolk, 2008). No previous studies have made a comparison between differences in sustainability reporting quality by assessing GRI indicators in different countries.

Those issues are addressed by our study. We have focused our attention on a specific part of sustainability annual reporting by analyzing GRI indicators of universities at an international level, for which no previous studies are available.

On the basis of our analysis of the literature, we believe it is possible for the higher education sector:

Hp1: to assess the maturity level of sustainability reporting and to measure its quality by evaluating the GRI indicators currently disclosed; and

Hp2: to assess the differences in quality of sustainability reporting within examined countries.

4. Research Design

The method of research used in this study is inductive in order to analyze the state of the art of sustainability reporting in higher education. The question of social reporting in universities is of international significance. Considering that the sustainability reporting model chiefly used at supra-national level is the GRI, we examined its database to identify the universities that conform to that standard [1]. In particular, we analyzed reports published in 2012 by entities classified by the database as belonging to the category of 'universities' (Table 1).

Table 1: The population of the research

Country (Number of universities)	Universities
Austria (2)	Boku University
	Karl-Franzens Universität Graz
Australia (1)	La Trobe University
Belgium (1)	Hoge School-Universiteit Brussel
Bolivia (1)	Universidad Tecnológica de Bolívar
Brazil (1)	Universidade Feevale
Canada (1)	University of Calgary
Chile (1)	Universidad de Santiago de Chile
China (1)	University of Hong Kong
Finland (2)	Saimaa University of Applied Science
	Turku University of Applied Science
Germany (1)	Leuphana Universität Lüneburg
Russia (1)	Vladivostok State University of Economic and Service
Spain (6)	Esade Business School
	Universidad de Santiago de Compostela
	Universidad de Zaragoza
	Universidad Internacional de Andalucía
	Universidad de Cantabria
	Universidad de Cádiz
Switzerland (1)	École Polytechnique Fédérale de Lausanne (EPFL)
Turkey (1)	Kadir Has Üniversitesi
USA (7)	Ball State University
	Michigan State University
	North Carolina State University
	Ohio University
	University of Massachusetts Dartmouth
	University of Michigan
	Brown University

1 http://database.globalreporting.org, as of September 11, 2013

Not included in the research population were those universities which, although in the database, returned reports that were not coherent with the structure of the GRI model. The universities excluded were: Brown University, Michigan State University, North Carolina State University, Ohio University, Saimaa University of Applied Science, Universidad Tecnológica de Bolívar, University of Michigan, and Vladivostok State University of Economics and Service.

The first phase of research evaluated the quality of reports by analyzing the indicators contained in documents published in 2012 according to GRI 3.1 guidelines (GRI, 2011b). The approach used was derived from that of Graves and Waddoch (2000), Mio (2010), Callan and Thomas (2009), and Romolini, Fissi and Gori (2014).

This analysis was carried out in clearly distinct steps. Firstly, the presence of indicators was identified according to the table in the GRI standard. To do this, we began by evaluating the use of each indicator from the model. Subsequently, we calculated the average value of indicators, grouped based on the reporting categories laid down by the standard (economic performance, environmental performance, and social performance).

Next, to 'measure' the maturity reached by the practice of sustainability reporting, a further study was conducted, giving a weight to each of the indicators. Then, a different value was assigned to the two types of indices – core (weight '1') and additional (weight '0.5'), as per the model. Consequently, the weights of the indicators were specified for each area of reporting: economic, environmental and social; the latter, in turn, being divided into 'labor practices and decent work', 'human rights', 'society' and 'product responsibility'.

In the second phase, the geographic distribution of the university population was examined to highlight the areas where sustainability reporting was more extensively applied. In particular, the use of indicators in the single countries making up the population studied was further examined. The investigation was carried out using two approaches for discovering the use of the GRI indicators, first, by calculating the average value, and then by giving weight to the 'core' and 'additional' indicators. The number of universities is therefore not homogeneous with reference to the single countries.

5. Analysis of results

The aim of the research was to analyze the international panorama for sustainability reporting in universities. Twenty universities that had drawn up a sustainability report in 2012 were found in the GRI database (Table 1).

From a geographical viewpoint, we observed in general a dispersion of the phenomenon for the single countries involved, with a distinct prevalence of Spain, representing about 30% of the population. This result is also confirmed by the huge presence of European universities, which alone represent 65% of those analyzed. Within this context, Spain however maintains its position of dominance, while other countries represented are Austria, Switzerland, Belgium, Turkey, Germany and Finland. It should be noted that no evidence of sustainability reporting was found in the GRI database for Italian universities. This result confirms the findings of previous studies

(Ricci, 2013), clearly showing the use of customized reporting structures based on the GBS model, which cannot be inserted into the GRI database nor compared at international level.

Similar to the Italian case is that of the United States, with only two universities present in the population. Another five American universities were excluded from analysis because, although present in the database, they used structures different from the GRI model. Counting the excluded cases, the USA have the greatest diffusion of the practice of sustainability reporting, even more so than Spain, but their customized reporting structures, as in the case of Italy, raise doubts as to their comparability.

With reference to our investigation into the quality of sustainability reporting, an initial study was carried out into the use of indicators, which are unquestionably an element of disclosure. The research measured the quality level of disclosure, evaluating the use in absolute terms of sustainability reporting indicators (Table 2). An element common to all the areas was achieving a score that, on average, was close to half of the maximum possible. This evaluation highlights the fact that, in the context of disclosure relating to sustainability reporting by universities, there is still considerable room for improvement and development.

The analysis found notably high use of indicators in the macro-areas of 'economic' and 'environmental' performance. Within the broader area of 'social' performance, the greatest levels of disclosure were found in the sub-section 'labor practices and decent work'.

Under 'economic' performance, universities showed great use of indicators referring to financial-economic results and, vice versa, less attention towards 'market presence' and 'indirect economic impacts'. This result shows significant interest in communicating to stakeholders the economic value produced by activities of research and education, rather than evaluating market conditions and indirect effects.

In the environmental area, on the other hand, questions of greater interest concerned environmental emissions deriving from management, consumption of energy, water and raw materials and biodiversity. The environmental impact of the sector of research and education is clearly much reduced, compared with that of manufacturing and industry. So, it was reasonable to expect less use of indicators – as indeed research findings confirmed.

Lastly, in social performance, attention was clearly focused on impacts on internal working conditions, with particular importance given to effects on employment, safety at work, training and equal opportunity. The question of 'training and education' gave a significant result of 2.30 points, corresponding to 76.67% of the maximum score. Similarly, the 'human rights' area returned good results – in particular 'non-discrimination' reached 65% of the maximum score. Under 'society', particular attention was given to 'community' (65%), 'compliance' (55%) and 'corruption' (41.67%). By contrast, questions regarding 'product responsibility' remained more in the background. This would appear to have little connection with the university system and its products, since education does not have material connotations, while research has particularly long and uncertain response times.

Table 2: GRI indicators in universities' sustainability reports

Reporting areas	Score	Max
Economic performance indicators	5.75	9.00
Economic performance (EC1-EC4)	3.05	4.00
Market presence (EC5-EC7)	1.45	3.00
Indirect economic impacts (EC8-EC9)	1.25	2.00
Environmental performance indicators	14.59	30.00
Raw materials (EN1-EN2)	1.30	2.00
Energy (EN3-EN7)	3.25	5.00
Water (EN8-EN10)	1.55	3.00
Biodiversity (EN11-EN15)	1.50	5.00
Direct and indirect emissions (EN16-EN25)	4.75	10.00
Products and services (EN26-EN27)	0.75	2.00
Conformity (EN28)	0.55	1.00
Transport (EN29)	0.55	1.00
General (EN30)	0.40	1.00
Social performance indicators	21.05	40.00
Labor practices and decent work	9.95	14.00
Employment (LA1-LA3)	2.30	3.00
Industrial relations (LA4-LA5)	1.25	2.00
Health and safety at work (LA6-LA9)	2.50	4.00
Training and education (LA10-LA12)	2.30	3.00
Diversity and equal opportunity (LA13-LA14)	1.60	2.00
Human rights	3.45	9.00
Investment and procurement practices (HR1-HR3)	1.00	3.00
Nondiscrimination (HR4)	0.75	1.00
Freedom of association and collective bargaining (HR5)	0.50	1.00
Child labor (HR6)	0.30	1.00
Forced and compulsory labor (HR7)	0.35	1.00
Security practices (HR8)	0.35	1.00
Indigenous rights (HR9)	0.20	1.00
Society	3.60	8.00
Community (S01)	0.65	1.00
Corruption (S02-S04)	1.25	3.00
Public policy (app. to political parties) (S05-S06)	0.90	2.00
Anti-competitive behavior (S07)	0.25	1.00
Compliance (S08)	0.55	1.00
Product responsibility	4.05	9.00
Customer health and safety (PR1-PR2)	0.75	2.00
Product and service labelling (PR3-PR5)	1.45	3.00
Marketing communications (PR6-PR7)	0.90	2.00
Customer privacy (PR8)	0.50	1.00
Compliance (PR9)	0.45	1.00

Source: Reports 2012

Our research also aimed at examining the quality of reports, considering the use of indicators not in absolute terms but rather from the perspective of the GRI model, which distinguishes between core and additional indices. To this end, we decided to allot different 'weights' to mandatory (core) indicators with respect to voluntary (additional) ones. The total weight of the indicators, calculated for each reporting

macro-area contained in the GRI model, was found as a mean value, taking account of the great number of universities making up the population. The maximum result achievable was also indicated for each indicator. A higher average result for each reporting macro-area clearly indicates a better level of disclosure for economic, social and environmental performance (Table 3).

Table 3: Qualitative analysis of sustainability reporting in universities

Reporting areas	Score	Max
Economic performance indicators	5.20	8.00
Economic performance (EC1-EC4)	3.05	4.00
Market presence (EC5-EC7)	1.20	2.50
Indirect economic impacts (EC8-EC9)	0.95	1.50
Environmental performance indicators	12.11	23.50
Raw materials (EN1-EN2)	1.30	2.00
Energy (EN3-EN7)	2.45	3.50
Water (EN8-EN10)	1.23	2.00
Biodiversity (EN11-EN15)	1.10	3.50
Direct and indirect emissions (EN16-EN25)	4.25	8.50
Products and services (EN26-EN27)	0.75	2.00
Conformity (EN28)	0.55	1.00
Transport (EN29)	0.28	0.50
General (EN30)	0.20	0.50
Social performance indicators	17.57	32.50
Labor practices and decent work	8.33	11.50
Employment (LA1-LA3)	1.93	2.50
Industrial relations (LA4-LA5)	1.25	2.00
Health and safety at work (LA6-LA9)	1.95	3.00
Training and education (LA10-LA12)	1.60	2.00
Diversity and equal opportunity (LA13-LA14)	1.60	2.00
Human rights	3.01	7.50
Investment and procurement practices (HR1-HR3)	0.83	2.50
Nondiscrimination (HR4)	0.75	1.00
Freedom of association and collective bargaining (HR5)	0.50	1.00
Child labor (HR6)	0.30	1.00
Forced and compulsory labor (HR7)	0.35	1.00
Security practices (HR8)	0.18	0.50
Indigenous rights (HR9)	0.10	0.50
Society	3.28	7.00
Community (S01)	0.65	1.00
Corruption (S02-S04)	1.25	3.00
Public policy (approach to political parties/institutions) (S05-S06)	0.70	1.50
Anti-competitive behavior (S07)	0.13	0.50
Compliance (S08)	0.55	1.00
Product responsibility	2.95	6.50
Customer health and safety (PR1-PR2)	0.60	1.50
Product and service labelling (PR3-PR5)	0.95	2.00
Marketing communications (PR6-PR7)	0.70	1.50
Customer privacy (PR8)	0.25	0.50
Compliance (PR9)	0.45	1.00

Source: Reports 2012

The qualitative investigation also confirmed the results mentioned previously, that is the pre-eminence of the 'economic' and 'environmental' performance macro-areas and of 'labor practices and decent work' only, as part of 'social performance'. These macro-areas had a better quality score compared with that shown in Table 2, which shows results over 50% of the maximum score achievable. By contrast, attention waned regarding the areas of 'human rights', 'society' and 'product responsibility', with an even more marked drop in results in qualitative terms.

Further analysis into the quality of reports was made by evaluating the average number of indicators in relation to the single countries that made up the population under examination (Table 4).

The best results were achieved, in descending order, by Turkey (72 points), the United States (67.5 points), Australia (66 points) and Chile (63 points). Although European countries had the larger presence in the GRI database, they did not have an equally positive level of disclosure, with the exception of Germany, which reached 62 points. Furthermore, although Spain had by far the greatest number of universities involved in sustainability reporting, it achieved levels of disclosure that were fairly modest (34.88 points), albeit in line with other countries in northern Europe.

An examination of the scores achieved in each macro-area of reporting is of interest. In the overall scoring for 'economic performance indicators' and 'environmental performance indicators', with the exception of Canada, no significant differences were found, while there was more marked variability in 'social performance indicators'. In other words, the differences that account for wide gaps in the overall scores are related to the 'social performance indicators' area, where Turkey and Chile 'stand out' with 38 points, and the USA and Australia with 37 and 34 points respectively.

Lastly, the qualitative analysis of the reports confirms the results from previous research phases (Table 5). The podium is again made up of Turkey (58.5 points), the United States (55 points), Australia (54 points) and Chile (51 points), with Canada in last place with only 8.5 points. A comparison of scores from universities in absolute and qualitative terms (Tables 4 and 5) reveals greater variation in scores for the 'social performance indicators', with some universities not reporting on certain topics, such as 'human rights' and 'product responsibility'.

Table 4: GRI indicators in Universities' Sustainability 2012 Reports. Results for each country

Reporting areas	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Finland	Germany	Spain	Switzerland	Turkey	USA
Economic performance indicators	9.00	5.50	4.00	3.00	2.00	6.00	5.00	8.00	9.00	5.00	5.00	9.00	7.00
Economic performance (EC1-EC4)	4.00	3.50	3.00	1.00	1.00	3.00	3.00	4.00	4.00	3.00	3.00	4.00	3.00
Market presence (EC5-EC7)	3.00	0.50	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.17	0.00	3.00	2.50
Indirect economic impacts (EC8-EC9)	2.00	1.50	0.00	1.00	0.00	2.00	1.00	2.00	2.00	0.83	2.00	2.00	1.50
Environmental performance indicators	23.00	10.50	11.00	4.00	7.00	19.00	16.00	10.00	22.00	11.50	18.00	25.00	23.50
Raw materials (EN1-EN2)	2.00	1.50	2.00	2.00	0.00	2.00	0.00	1.00	2.00	0.83	2.00	1.00	2.00
Energy (EN3-EN7)	4.00	3.50	3.00	0.00	2.00	4.00	3.00	2.00	5.00	3.00	5.00	5.00	3.50
Water (EN8-EN10)	2.00	0.50	1.00	1.00	1.00	3.00	3.00	1.00	3.00	1.17	0.00	3.00	2.50
Biodiversity (EN11-EN15)	3.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	3.00	1.17	2.00	4.00	3.50
Direct and indirect emissions (EN16-EN25)	9.00	2.50	5.00	0.00	3.00	6.00	8.00	5.00	5.00	3.33	7.00	8.00	7.00
Products and services (EN26-EN27)	1.00	0.50	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.83	1.00	1.00	2.00
Conformity (EN28)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	0.67	0.00	1.00	1.00
Transport (EN29)	1.00	0.50	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.33	1.00	1.00	1.00
General (EN30)	0.00	0.50	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.17	0.00	1.00	1.00
Social performance indicators	34.00	13.00	17.00	6.00	1.00	38.00	12.00	16.00	31.00	19.38	18.00	38.00	37.00
Labor practices and decent work	13.00	8.00	11.00	3.00	1.00	14.00	10.00	11.00	14.00	9.84	9.00	14.00	12.00
Employment (LA1-LA3)	3.00	1.50	3.00	1.00	0.00	3.00	2.00	2.00	3.00	2.50	3.00	3.00	2.50
Industrial relations (LA4-LA5)	2.00	1.00	2.00	0.00	1.00	2.00	0.00	2.00	2.00	1.00	0.00	2.00	2.00
Health and safety at work (LA6-LA9)	4.00	2.50	2.00	0.00	0.00	4.00	3.00	2.00	4.00	2.50	1.00	4.00	3.00
Training and education (LA10-LA12)	3.00	1.50	3.00	1.00	0.00	3.00	3.00	3.00	3.00	2.17	3.00	3.00	2.50
Diversity and equal opportunity (LA13-LA14)	1.00	1.50	1.00	1.00	0.00	2.00	2.00	2.00	2.00	1.67	2.00	2.00	2.00
Human rights	7.00	2.00	2.00	1.00	0.00	9.00	1.00	0.00	3.00	2.35	3.00	8.00	8.50
Investment and procurement practices (HR1-HR3)	3.00	1.00	1.00	0.00	0.00	3.00	0.00	0.00	0.00	0.50	0.00	3.00	2.50
Nondiscrimination (HR4)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.67	1.00	1.00	1.00
Freedom of association and collective bargaining (HR5)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.67	0.00	1.00	1.00
Child labor (HR6)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.17	1.00	1.00	1.00
Forced and compulsory labor (HR7)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.17	1.00	1.00	1.00
Security practices (HR8)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.17	0.00	1.00	1.00
Indigenous rights (HR9)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

Society	7.00	1.50	2.00	2.00	0.00	8.00	1.00	2.00	6.00	2.50	3.00	8.00	7.50
Community (S01)	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.50	0.00	1.00	1.00
Corruption (S02-S04)	3.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	3.00	1.17	1.00	3.00	2.50
Public policy (approach to political parties/ institutions) (S05-S06)	1.00	0.00	0.00	1.00	0.00	2.00	0.00	1.00	2.00	0.50	2.00	2.00	2.00
Anti-competitive behavior (S07)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
Compliance (S08)	1.00	0.50	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.33	0.00	1.00	1.00
Product responsibility	7.00	1.50	2.00	0.00	0.00	7.00	0.00	3.00	8.00	4.69	3.00	8.00	9.00
Customer health and safety (PR1-PR2)	1.00	0.50	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.50	0.00	2.00	2.50
Product and service labelling (PR3-PR5)	3.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	3.00	1.50	2.00	2.00	2.50
Marketing communications (PR6-PR7)	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.86	0.00	2.00	2.00
Customer privacy (PR8)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.33	1.00	1.00	1.00
Compliance (PR9)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.50	0.00	1.00	1.00
TOTAL	66.00	29.00	32.00	13.00	10.00	63.00	33.00	34.00	62.00	34.88	41.00	72.00	67.50

Table 5: Qualitative analysis in Universities' Sustainability 2012 Reports.Results for each country

Reporting areas	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Finland	Germany	Spain	Switzerland	Turkey	USA
Economic performance indicators	8.00	5.00	3.50	2.50	1.50	5.00	4.50	7.50	8.00	4.67	4.50	8.00	6.50
Economic performance (EC1-EC4)	4.00	3.50	3.00	1.00	1.00	3.00	3.00	4.00	4.00	3.00	3.00	4.00	3.00
Market presence (EC5-EC7)	2.50	0.50	0.50	1.00	0.50	0.50	0.50	2.00	2.50	1.00	0.00	2.50	2.25
Indirect economic impacts (EC8-EC9)	1.50	1.00	0.00	0.50	0.00	1.50	1.00	1.50	1.50	0.67	1.50	1.50	1.25
Environmental performance indicators	18.50	8.25	10.50	3.50	6.00	15.00	14.00	10.00	16.50	9.92	14.50	19.50	18.75
Raw materials (EN1-EN2)	2.00	1.50	2.00	2.00	0.00	2.00	0.00	1.00	2.00	0.83	2.00	1.00	2.00
Energy (EN3-EN7)	3.00	2.25	2.50	0.00	2.00	3.00	2.50	2.00	3.50	2.33	3.50	3.50	2.50
Water (EN8-EN10)	1.50	0.50	1.00	1.00	1.00	2.00	2.00	1.00	2.00	1.08	0.00	2.00	1.75
Biodiversity (EN11-EN15)	2.00	1.00	0.00	0.00	0.00	0.50	1.00	0.00	1.50	0.92	1.50	3.00	2.50
Direct and indirect emissions (EN16-EN25)	7.50	2.00	5.00	0.00	2.50	5.50	7.50	5.00	4.50	3.08	6.00	7.00	6.00
Products and services (EN26-EN27)	1.00	0.50	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.83	1.00	1.00	2.00
Conformity (EN28)	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	0.67	0.00	1.00	1.00
Transport (EN29)	0.50	0.25	0.00	0.00	0.50	0.50	0.00	0.00	0.50	0.17	0.50	0.50	0.50
General (EN30)	0.00	0.25	0.00	0.50	0.00	0.50	0.00	0.00	0.50	0.08	0.00	0.50	0.50
Social performance indicators	24.50	10.75	14.50	6.00	1.00	31.00	10.00	14.00	25.50	15.76	16.00	31.00	30.75
Labor practices and decent work	8.50	6.50	9.00	3.00	1.00	11.50	8.00	10.00	11.50	8.33	7.55	11.50	10.00
Employment (LA1-LA3)	2.50	1.25	2.50	1.00	0.00	2.50	1.50	2.00	2.50	2.08	2.50	2.50	2.00
Industrial relations (LA4-LA5)	2.00	1.00	2.00	0.00	1.00	2.00	0.00	2.00	2.00	1.00	0.00	2.00	2.00
Health and safety at work (LA6-LA9)	3.00	1.75	1.50	0.00	0.00	3.00	2.50	2.00	3.00	2.00	1.00	3.00	2.25
Training and education (LA10-LA12)	2.00	1.00	2.00	1.00	0.00	2.00	2.00	2.00	2.00	1.58	2.00	2.00	1.75
Diversity and equal opportunity (LA13-LA14)	1.00	1.50	1.00	1.00	0.00	2.00	2.00	2.00	2.00	1.67	2.00	2.00	2.00
Human rights	5.50	1.75	1.50	1.00	0.00	7.50	1.00	0.00	3.00	2.18	4.00	7.00	7.00
Investment and procurement practices (HR1-HR3)	2.50	0.75	1.00	0.00	0.00	2.50	0.00	0.00	0.00	0.42	0.00	2.50	2.00
Nondiscrimination (HR4)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.67	1.00	1.00	1.00
Freedom of association and collective bargaining (HR5)	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.67	0.00	1.00	1.00
Child labor (HR6)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.17	1.00	1.00	1.00
Forced and compulsory labor (HR7)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.17	1.00	1.00	1.00
Security practices (HR8)	0.50	0.00	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.08	0.00	0.50	0.50
Indigenous rights (HR9)	0.50	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50

Society	6.50	1.50	2.00	2.00	0.00	7.00	1.00	2.00	5.50	2.33	2.50	7.00	7.50
Community (S01)	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.50	0.00	1.00	1.00
Corruption (S02-S04)	3.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	3.00	1.17	1.00	3.00	2.50
Public policy (approach to political parties/ institutions) (S05-S06)	1.00	0.00	0.00	1.00	0.00	1.50	0.00	1.00	1.50	0.33	1.50	1.50	1.50
Anti-competitive behavior (S07)	0.50	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.50	0.50
Compliance (S08)	1.00	0.50	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.33	0.00	1.00	1.00
Product responsibility	4.00	1.00	2.00	0.00	0.00	5.00	0.00	2.00	5.50	2.92	2.00	5.50	6.25
Customer health and safety (PR1-PR2)	1.00	0.50	0.00	0.00	0.00	1.50	0.00	0.00	1.50	0.42	0.00	1.50	1.50
Product and service labelling (PR3-PR5)	2.00	0.50	1.00	0.00	0.00	0.50	0.00	0.50	2.00	1.00	1.50	1.00	1.75
Marketing communications (PR6-PR7)	1.50	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.50	0.83	0.00	1.50	1.50
Customer privacy (PR8)	0.50	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.50	0.17	0.50	0.50	0.50
Compliance (PR9)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.50	0.00	1.00	1.00
TOTAL	54.00	24.00	28.50	12.00	8.50	51.00	28.50	31.50	50.00	30.42	34.00	58.50	55.00

6. Conclusions

Despite the growing interest in sustainability reporting, descriptive studies examining how companies build their reports are, to date, extremely scarce (Perrini, 2006). Moreover, notwithstanding the proliferation of these reports, questions remain on the information they should contain and on how they should be structured (Davis and Searcy, 2010). This paper provides one of the first in-depth studies of sustainability reporting quality within universities, and the research has sought to understand the state of sustainability reporting in higher education by evaluating its completeness and its quality.

Our first research hypothesis was confirmed by measuring the maturity and the quality of sustainability reporting in higher education. The analysis found the high use of indicators in the macro-areas of 'economic' and 'environmental performance' in the GRI model. The main topics in the economic area are referred to financial and economic results, while the higher use of environmental indicators concerned environmental emission, energy, water, raw materials and biodiversity. In the social performance area the greatest level of disclosure were found in the internal working conditions with topics like effects on employment, safety at work, training and equal opportunity. In particular, regarding the qualitative level of disclosure, the results confirmed that significant improvements are required since the universities' scores are generally below 50% of the maximum score achievable (Daub, 2007).

The results confirmed previous research by highlighting some reporting that was extremely limited in scope, depth and quality (United Nations, 2010), for instance in the case of human rights and product responsibility. This reflects current practices in which sustainability reporting tends to focus more on how issues are managed rather than measuring the actual business impacts on communities and the environment (IE School of Communication, 2010).

The second research hypothesis was also confirmed: sustainability reporting quality is different within examined countries and, moreover, some areas are effectively more developed in some universities compared with others. In particular, the differences between the qualities of indicators disclosed in sustainability reporting may be linked to the peculiarities of each country: different countries have different national business systems that are shaped by a variety of national institutions. Institutional features such as the political, financial, educational and labor, and cultural systems have a number of implications for the structural features of corporations, the organization of market processes, and the corporate governance (Matten and Moon, 2004).

The results of this study are significant in that they enable us to draw up an 'initial classification' of disclosure of universities in the GRI database. Furthermore, these results offer interesting points of consideration for further studies. It would appear interesting to extend the analysis carried out to more years, in order to highlight a possible trend and the continued presence of differences in attention to disclosure in the various reporting macro-areas. These differences might then be investigated in order to understand their motivations.

Moreover, the research provides an overview of the situation regarding sustainability reporting in universities using GRI indicators, and it is a response to the need for more CSR research in the context of higher education (Coy and Pratt, 1998; Shriberg, 2004).

Another contribution of this study worth mentioning relates to the methodology used to assess the social reporting quality. This research went beyond previous studies by adding a proposal to evaluate the social reporting quality. Our research examined the GRI indicators and evaluated the quality of sustainability reporting according to those indicators.

The paper shows that there are numerous possibilities for future research in this area that might be developed, arising out of the very limits of this paper.

The main limitations of this study concern the universities analyzed, as the population comes from the GRI database. Secondly, many entities do not have their social reports certified by a third party. A recent research highlighted differences in external verification of social reports, with 45% of European reports being externally verified, as opposed to 24% of Japanese reports, and only 3% of American reports (Kolk, 2008). As a result, the possibility remains that companies may overstate their performance when disclosing social responsibilities.

We believe it would be useful to carry out content analysis into the quality of what has been reported in sustainability communications.

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