Article

Are Australian Universities Making Good Use of ICT for CSR Reporting?

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Academic Editor: Sarah Holdsworth

Abstract: The higher education system in Australia has witnessed various government initiatives that have provided funding to integrate corporate social responsibility (CSR) issues and thus contribute to the training of professionals with a strong sense of ethics, social values and concern for the repercussions of business activities in society. There are increasing demands from stakeholders for more transparent and more accountable information, including questions related to CSR. This paper analyses the policies and communication strategies regarding CSR information applied in Australian universities and considers whether they are making good use of information and communication technologies (ICT) to facilitate interaction with stakeholders. The results show that ICT have not been considered a relevant tool in terms of improving accountability regarding CSR concerns in Australian universities, although they could represent a differentiation factor in the competitive environment of higher education.

Keywords: universities; corporate social responsibility; online; disclosure; information and communication technologies; Australia

1. Introduction

Higher education systems in Australia have undergone wide-reaching reforms in the last fewdecades. In the 1980s and 1990s, the higher education system was one of the objects of the drive to minimize state intervention, under the tenets of neoliberal theories. On the one hand, these reforms were characterized by a gradual decline in the number of students and by reductions in state funding [1], resulting in a competitive environment where universities invested resources in order to gain a competitive advantage. On the other hand, academics increasingly emphasized the importance ofindividual competitiveness in global markets [2], and this viewraisedthe market and the search for profit above concerns about climate change and environmental sustainability [3].

In recent years, a consensusseems to have been reached that universities should play a key role in the field of social responsibility (SR) through the incorporation of principles of corporate social responsibility (CSR) into their mission, vision and strategy [4]. Accordingly, a second wave of reforms took place in Australian universities, on the one hand as a response to neoliberalism, and on the other, as a new approach to vital contemporary questions such as climate change, environmental sustainabilityandrebuilding communities in a socially fair way [3]. The Australian government has pledged to make a special investment effort in higher education, and to provide funding in areas such as sustainability, energy and climate change, among other issues, with respect to both academic issues and research [5]. This change of course was influenced by the fact that research has shown that integrating CSR and sustainability concerns intothe main activities of educational institutions represents a great opportunity, one that can enable universities to achieve a competitive advantage[6]. In consequence, universities are now expanding their sphere of action and integrating the concept of sustainable development into the daily reality of campus life [7].

The values transmitted through education have a significant influence on the professional development of students and on their perception of the business world and its responsibilities toward society [8,9].

Education in questions related to CSR is closely linked to environmental education, which seeks to alleviate the negative impact of the individual on the natural world and on the environment, by adapting production and consumption systems to reduce their ecological impact [8]. In this approach to CSR concerns, students are encouraged to engage in social and environmental problems that go beyond their individual sphere of interest, to become involved in improving the system and in preserving resources so that future generations can enjoy a continuing level of prosperity and wellbeing [10,11].

Thus, students are urged to take the environment to heart; educational systems, too, are increasingly pressured to address environmental issues in university courses, to disclose information with respect to their own SR [12] and to demonstrate their commitment to the environment.

Universities are now integrating the concepts of social responsibilityand training professionals in educational ethics, social values and concern about the impact of business activity on the environment [13,14].

There seems to be a certain consensus that universities must integrate social responsibility in their strategic planning, by setting objectives and developing long term strategies in questions related to social responsibility. These objectives and strategies must then be translated into specific actions [15].

By analogy with the private sphere [16], universities must consider and report the impacts of their activities on the environment, addressing both general and specific aspects of CSR management. Like other organizations, they must take into account the environmental, economic and social impact oftheir operations [14]. In addition, universities should also communicate targeted actions in this field such as teaching, research and community outreach activities related to CSR [14].

Despite the efforts of universities in terms of the integration and publication of CSR reports, currently, there is no standard format for these reports. The AA1000 and the Global Reporting Initiative (GRI) [17] are the most commonly used guidelines in the field of sustainability reporting.These standards highlight the need to disclose the triple bottom line, *i.e.*, the social, economic and environmental development of the organization, but they were not developed specifically for universities. Indeed, due to the particular characteristics of universities, there exists CSR-related information that is specific to the field of education and research and it has been suggested that this constitutes a fourth area of information dissemination [13]. Nonetheless, the use of the GRI guideline offers one of the best options for assessing and reporting sustainability reports [13,14]. Therefore, in our study research, the GRI guideline has been selected as a first approach for analyzing the SR informational content supplied by universities.

In addition to this motivation, the pursuit of SR in the field of higher education necessarily involves wider considerations, such as identifying and addressing the expectations of stakeholders, establishing mechanismsfor dialogue with them and improving information transparency. However, the identification and prioritization of the diverse stakeholders in a university is not an easy issue. To effectively manage stakeholders, the university must first identify them precisely. In this regard, previous studies have shown that the main stakeholders are students, teachers, researchers and other university employees [18].

Universities that explicitly set out to address the expectations of their stakeholders are primarily engaged in activities of institutional legitimization, seeking the acceptance and approval of stakeholders of the university's activities in its social environment [19]. Consequently, universities that wish to establish communication strategies taking into account considerations of SR should present themselves as active participants in this field, demonstrating that they are responding appropriately to the information needs of their stakeholders, and presenting an image of the university as a socially responsible institution[20].The internet plays a key role in information transparency [21], by facilitating accountability, enhancing communication and increasing stakeholders' access to information. Accordingly, it is of great interest to examine whether universities, as models of ethical behavior, together with the knowledge society and research centers focused on SR issues, are taking advantage of the opportunities offered by information technologies, especially the internet, as a means of disclosing information on SR and of interacting with stakeholders.

Despite the many reforms that have taken place in the higher education system in Australia, little or no research attention has been paid to the question of whether Australian universities, which are highly active in the implementation of information and communication technologies (ICT) [22], are committed to disclosing online SR information as a key aspect of their corporate CSR policies and strategies. In fact, there has been a conspicuous lack of studies focusing on the online communication policies of these universities regarding SR issues.

We chose to examine the situation in Australian universities because these institutions have undergone far-reaching reforms in terms of the introduction of SR criteria into teaching and research [1]. Universitiesin general, including those in Australia, should communicate their CSR activities as models of ethical behavior for society and centers of knowledge and research in questions of social responsibility [14]. In addition to other benefits, this would confer greater legitimacy on their actions and create an advantage in a competitive market [23].

Therefore, the aim of this article is to examine whether, within the framework of accountability, Australian universities are using the internet as a means of disclosing their concerns and actions in the field of SR in order to facilitate interaction with stakeholders and thereby promote the participatory and management aspects of SR.

The contribution of our paper is twofold. On the one hand, we have designed and proposed a framework to analyze and evaluate the online CSR information provided by Australian universities.This framework has been applied to all universities in Australia to determine whether the online disclosure ofSR concerns is a fundamental aspect of their communication policies. On the other hand, we also consider whether Australian universities are using the internetto encourage interaction with their stakeholders with respect to SR issues.

In order to achieve its goals, the rest of this article is organized as follows. Section 2 describes the higher education system in Australia, showing how SR has come to the forefront in recent years as an essential aspect of accountability. Section 3 details the empirical research adopted, setting out the sampling procedure used and the research methodology applied. Section 4 discusses the main results obtained from the empirical study, and the paper concludesby discussing these results and summarizing the main conclusions drawn.

2. The Reform of the Australian University System and the Role of Social Responsibility

According to the EU Green Paper [24], CSR is the concept whereby companies decide to voluntarily contribute to achieving a better society and preserving the environment.

In the context of higher education, CSR has been defined as a university's capacity to disseminate and implement a body of principles and values, both general and specific,by means of four key processes—management, teaching, research and university extension—thus responding to the needs of the university community and of the country as a whole [25].

In accordance with the recommendations of the World Conference on Environment and Development (Rio de Janeiro), universities have incorporated respect for the environment, social responsibility and sustainable development into their curricula and daily life on campus [26,27].

The role of higher education in promoting sustainable development is very important because previous research has shown that, in business, the commitment to CSR is linked to the qualities acquired (education and training) rather than its inherent physical characteristics [28,29].For over a decade, these issues have been of concern throughout the world, and in Australia numerous studies have assessed the need to incorporate CSR criteria and ethics into university curricula [30].

Higher education in Australia is predominantly in the public sector [31]. Thus, universities operate in an environment that is characterized by a high degree of central government control andplanning

that determines institutional funding, is involved in setting goals and designing policies on tuition, and establishes regulatory controls that, directly or indirectly, affect the entire educational system [32].

Nonetheless, over the past fifteen years, public funding per student has declined dramatically and this has forced universities to develop alternative sources of revenue in order to maintain their core activities of teaching and research [33]. Accordingly, and in parallel with other higher education institutions, universities in Australia have made profound changes in order to address the new scenariosthat have arisen from changes in government policies. TheAustralian government is well aware of the need to acquire a more highly skilled and better educated workforce in order to restructure the Australian economy. Accordingly, it seeksto halt and then reverse the progressive decline in the public funding of Australian universities, taking into account, moreover, the increasing international competition to which they are subject [32,34].Accordingly, a Green (Policy Discussion) Paper was published in 1987 [35]to initiate a debate on the need for fundamental reform in higher education in Australia [32].

The global financial and economic crisis of recent years has also affected the education sector, in general, not only in terms of budget reductions and reduced learning opportunities, but also in the impact on educational aims themselves [36]. The crisis has led to another wave of reforms being undertaken in Australian universities, under the framework of the Bradley Report [37], which proposes radical structural changes in how university places are distributed and funded, and major improvements in terms of student income support and research funding policy.

In this context, an initiative which originated in Australian and New Zealand universities was the creation of the forum known as the "Australasian Campuses towards Sustainability Association", whose fundamental mission was to promote the integration of ecologically sustainable principles in curricula, research and university management [38].

In other words, CSR and sustainability concerns should be incorporated into all the major activities of educational institutions, in accordance with the belief that students with greater knowledge and skills will be better equipped to make a profound impact on social, environmental and economic sustainability [39]. This initiative is considered to represent a great opportunity for the universities themselves and for society as a whole [6,40]. This is one reason why many Australian universities have participated in the creation of international groups, such as the Association of University Leaders for a Sustainable Future [41], and have supported the incorporation of CSR and sustainability issues into teaching, research and all other operations undertaken by the university [36].

Similarly, Australian universities have subscribed to various international declarations that promote training and research regarding SR in the university, such as the Talloires Declaration towards a sustainable world, coordinated by leaders of universities worldwide, based in the USA[42],and the Swansea Declaration,draftedin 1993 by the Association of Commonwealth Universities, which states that universities should improve their ability to teach and undertake research in sustainable development in order to increase knowledge of the environment, and to improve our understanding of environmental ethics, both within the university and among the general public [43].

Nonetheless, despite international encouragement for greater interest in sustainable development and SR in higher education, Australian universities have been slow to implement such policies [44]. In this respect, Tilbury, Keogh, Leighton and Kent [45] found that sustainability initiatives in Australia

in general, and in higher education institutionsin particular, tend to focus on individual projects to address sustainability, rather than taking a systemic view of learning and change through the institution.

In response to the Decade of Education for Sustainable Development and in order to promote CSR, the Australian government acknowledged the need to integrate sustainability into the curriculum and toachieve an Australian education system capable of understanding and developing the skills required to achieve sustainability [46]. In this respect, the Committee of Vice-Chancellors of Australia [47] recognized the important role that universities play in promoting the objectives of sustainable education and declared its commitment to education for sustainable development. The Government subsequently approved the Australian National Action Plan for Education for Sustainability,the main aim of which was to support "whole institution change for sustainability in universities" and to ensure that "Education for sustainability is integrated into all university courses/subject areas and that campuses are managed in a sustainable way" [5].

Furthermore, the higher education market has become a very competitive environment for international students [34].The reputation of the provider country and its educational institutions are important factors in the selection of a destination for the future education of many students. Such has been the growth of the international education business that many governments have begun to see international studies as a critical factor in educational policy. Governments and institutions have responded by improving access to their education services for foreign students and by internationalizing their curricula [48]. Therefore, issues such as performance and accountability have become key questions in the higher education sector. Previous studies have highlighted the pressures imposed on universities in many Western countries, such as New Zealand and the UK [49], to provide more detailed and wider ranging information, especially in relation to the disclosure of university actions for accountability purposes. In fact, the increased use of sustainability reporting by universities has become a symbol of the ever-growing demands by stakeholders for more transparency and accountability in the corporate sphere [50]. One of the main strategies applied by organizations to gain legitimacy for their actions has been to align the perception of their actions with what is expected by their stakeholders, by means of information disclosure [51]. By informing stakeholders of their socially responsible actions, universities seek to demonstrate their commitment to transparency and accountability [21].

In the promotion of accountability, the internet has become a vital tool in support of university activities, from research and teaching to administrative tasks and management [52]. In fact, for over a decade, Australia has been at the forefront in the application and implementation of ICT in education, and has undertaken many innovative uses of technology in education [22].

In view of all these considerations, the aim of this study is to analyzewhether Australian universities are using the internetas a means of disseminating information on their SR actions and policies, facilitating interaction with stakeholders and thereby promoting the participatory management of their SR, thus complying with society's demands for greater transparency and accountability.

3. Empirical Research in Australian Universities

3.1. Sample

Our aim in this paper is to analyze the SR information online disclosed by Australian universities, in compliance with their duties of transparency and accountability to stakeholders.We are well aware that universities elsewhere are also implementing CSR policies and strategies, in many cases at a higher level than in Australia. We focus on the situation in Australian universities because in recent decadesthese institutions have undergone far-reaching reforms in terms of the introduction of SR criteria intoteaching and research, and consequently, Australian universities, like those in other English-speaking countries, are now reporting more information on SR issues.

To test these assertions, we examined whether Australian universities are disclosing CSR information, by means of a search conducted using general internet search engines such as Yahoo, Google and Terra,withthe key concepts "sustainability report", "environmental report", "environment", "ecology", "water", "recycling", "green building", "biodiversity"and "notfor profit", in combination with the term "university". This search showed that Australian universities do indeed discloseaspects of CSR on their website, and also in their annual reports, which are traditionally used as a means of communication and a source of accountability [53].

Subsequently, to collect the data, we performed a more detailed analysis of the CSR information disclosed by Australian universities, searching their websites and their annual and sustainability reports for the items included in our research framework.

In summary, this study of the use of ICT for CSR reporting is focused on Australian universities, taking into accountthe full range of Australian universities mentioned by the Australian Vice Chancellors Committee (http://www.avcc.edu.au/), 39 in total.

3.2. Proposed Framework to Assess Universities' Online Publication of CSR Information

The information systems used in Australia reflect a problem that is also evident elsewhere, namely that there is currently no international consensus as to what constitutes an ideal information system to report on sustainability issues and CSR [54]. Therefore, in order to analyze the extent to which universities are reporting online CSR information, and bearing in mind the scant level of prior research, this paper proposes an evaluation frameworkbased on a series of indices,examining the main aspects to be taken into account in terms of CSR content and of the context in which this information is disclosed.

In designing this evaluation framework, we took into account previous studies relating to online information disclosure [55–57] as well as others relating to the visibility, accessibility and usability of information content [58]. The present study is structured in two parts and includes the study of five indices (see Tables 1 and 2), consideringthe nature and amount of the CSR information, both general and specific (teaching and research), currently being disclosed by universities. It is motivated by the fact that no standard model for CSR evaluation and disclosure has yet become established.

Table 1. Content of social responsibility (SR) reporting.

GENERAL SR INFORMATION		$GSRI = \sum_{i=1}^{m} g_i$
Concept	**Items**	**Score**
G1. Statement of vision and strategy of the university on issues about social responsibility	a) If main SR commitments are disclosed. b) If the webpage or Sustainability Report includes a declaration on SR from the governing body.	0/0.5 based on the absence-presence of each item
G2. Information about profile of stakeholders	a) If the university webpage or the SR/Sustainability Report identify the stakeholders. b) If there is specific information about the informational needs of each group of stakeholders.	0/0.5 based on the absence-presence of each item
G3. Centralized or decentralized disclosure of SR information by universities	a) If the disclosure of SR information is developed in a centralized way on the university webpage. b) If this disclosure is developed through dependent centers at said university.	0/0.5 based on the absence-presence of each item
G4. Data on performance indicators	a) economic indicators. b) social indicators. c) environmental indicators.	0/0.33 based on the absence-presence of each item
G5. Index of contents or a table to locate different elements of information about SR	Provides the reader with an index or a table to locate different SR elements.	0/1 based on the absence-presence of that item

Table 1. *Cont.*

SPECIFIC SR INFORMATION		$SSRI = \sum_{i=1}^{m} MSR + ASR + RSR$
Concept	**Items**	**Score**
S1. Information disclosure regarding CSR MANAGEMENT [MSR= Sa+Sb+Sc+Sd+Se+Sf]		
Sa. Energy	Information is disclosed about the installation of systems that save electricity such as movement sensors, incandescent light bulbs or other alternative sources of energy.	0/1,17 based on the absence/presence of this item
Sb. Buildings and grounds	Information is disclosed about criteria for construction, renovation and rehabilitation of existing buildings in line with "green criteria".	0/1,17 based on the absence/presence of this item
Sc. Purchasing management	Information is disclosed about the need to prioritize the purchase of reusable, ecological materials that require a minimum of packaging.	0/1,17 based on the absence/presence of this item
Sd. Waste management and recycling	Information is disclosed about questions related to the promotion of the recycling of office material and solid waste providing recipients for articles such as paper, printer cartridges and batteries.	0/1,17 based on the absence/presence of this item
Se. Transportation	Information is disclosed about the creation of incentives for the university community to use public transport or alternative means of transport such as bicycles and bus.	0/1,17 based on the absence/presence of this item
Sf. Food	Information is disclosed about fair trade and sustainable food through the provision of ecological products in campus cafés and shops.	0/1,17 based on the absence/presence of this item
S2. Information disclosure regarding CSR ACADEMIC ACTIVITIES [ASR]	Information is disclosed about courses, seminars and conferences related to SR.	0/1based on the absence/presence of this item
S3. Information disclosure regarding CSR RESEARCH ACTIVITIES [RSR]	Information is disclosed about University research centers linked to SR.	0/1 based on the absence/presence of this item

Table 1. *Cont.*

QUALITATIVE CHARACTERISTICS OF SR INFORMATION	$QSRI = \sum_{i=1}^{m} g_i$

Concept	Items	Score
Q1. Completeness	It is possible to check and/or download the Report online.	0/1 based on the absence-presence of that item
Q2. Timeliness	It offers SR information more frequently than on a yearly basis (monthly, termly, *etc.*).	0/1 based on the absence-presence of that item
Q3. Comparability	a) It is possible to compare information from two or more years. b) It offers comparative summaries on sustainable information provided by the university.	0/0.5 based on the absence-presence of each item
Q4. Understandability	a) It offers ratios and graphics to help to clarify the SR information included in the Reports. b) It incIncludes comments on the SR information provided.	0/0.5 based on the absence-presence of each item
Q5. Relevance	a) It provides technical SR reports made by the University. b) It presents SR information in and ordered and classified manner.	0/0.5 based on the absence-presence of each item
Q6. Reliability	The information has been accredited.	0/1 based on the absence-presence of that item

Source: The authors, based on the GRI guidelines [17], Lozano [13], SR reports published by universities or adaptations of such reports, and on the recommendations of [59,60].

Table 2. Context of SR reporting.

USABILITY		$USRI = \sum\limits_{i=1}^{m} g_i$
Concept	**Items**	**Score**
U1. Reading and scanning	a) A specific section on the universities' websites for disclosing sustainability information exists. b) Electronic formats used to process the sustainability reporting: -htlm -pdf doc -xml o xbrl -xls c) Sustainability reporting is disclosed in different languages	0/0.33 based on the absence-presence of each item. Regarding the type of format (item b), the score of 0.33 is split in the following way: -htlm: 0.066 -pdf or doc: 0.066 -xml or xbrl: 0.099 -xls: 0.099
U2. Search	a) A basic search tool is included in the university website. b) An advanced search tool is included in the university website.	0/0.5 based on the absence-presence of each item
U3. Link characteristics	A system of hyperlinks for the information offered is provided.	0/1 based on the absence-presence of that item
U4.Structure of the web page	A web map showing the contents is available	0/1 based on the absence-presence of that item
U5. Characteristics of accesibility	All information provided on the website is freeware and it can be downloaded	0/1 based on the absence-presence of that item

Table 2. *Cont.*

STAKEHOLDER PARTICIPATION		$SKSRI = \sum_{i=1}^{m} g_i$
Concept	**Items**	**Score**
SK1. Characteristics of interactivity	a) A different e-mail address to the web master's is provided to request information or explanations. b) Personal contacts with responsible persons of the university for the information provided are supplied on the website. c) The website has a mailing list to update information to those information users that apply this service.	0/0.33 based on the absence-presence of each item
SK2. Forums/chats	a) Forums with general contents. b) Forums related to SR or sustainability.	0.5 if the online forum/chat used allows discussion of general subjects and 1 if there is a specific forum/chat used for SR subjects
SK3. Web 2.0 technology	a) Web 2.0 technology about the University in general. b) Web 2.0 technology about aspects of SR or sustainability.	0.5 if the use of Web 2.0 technology is aimed at general university subjects and 1 is the Web 2.0 technology is used for
SK4. Online surveys	a) Surveys not specific to SR. b) Surveys specific to SR.	0.5 of the university uses online surveys of a general nature and 1 if the university uses surveys about SR
SK5. Newsletter	a) General news. b) Specific news about SR or sustainability.	0.5 if the news disclosed by the university is of a general nature and 1 if it is SR news

Source: The authors, based on CYPRG guidelines [61] and previous literature [58].

Therefore, taking into consideration these arguments, the research in this field by Lozano [13] and the GRI guidelines, we have designed a framework for the online evaluation of CSR information disclosed by the universities. The items included are in accordance with previous recommendations, adapted according to the findings of our preliminary search of the Australian university websites. This proposal contributes to and enhances our understanding of sustainability reporting by universities.

The first part of our empirical study addresses the content of the CSR information disclosed by universities. To do so, we followed the GRI guidelines, and also analyzed the CSR reports disclosed online by different universities, focusing on specific qualitative characteristics in the information which, although of a general nature, relate to spheres of interest, e.g., financial information. Thus, three different sections—General CSR Information (GSRI), Specific CSR Information (SSRI) and the Qualitative Characteristics of CSR Information (QCSRI)—were defined as areas to be considered in order to determine the quality of the CSR information disclosed (see Table 1).

The second part refers to the context in which CSR information disclosure takes place, and is structured into three sections, to examine the characteristics of website usability (USRI) and of interaction, *i.e.*, how universities obtain information from stakeholders, learn about their expectations and encourage participation (SKSRI) (see Table 2).

To assess the items included in our assessment of universities' online disclosure of CSR information, and taking into account previous research findings [55], we opted for a binary dichotomous scoring system (0/1), according to the absence or presence of each question on the website or the Sustainability/CSR report. This approach was adopted in order to minimize subjectivity in the scoring system, as there are no explicit rules in this respect [62]. The same value was allocated to each unit when the aspect in question was defined by various items [63] (Tables 1 and 2 specify how each item was scored).

The study data were obtained in October and November 2014, by examining the websites of all the universities included in the study sample. For maximum objectivity, this process was carried out separately by each of the three authors, who subsequently met to discuss the results and to reach a consensus. If there were any significant discrepancies, the websites were examined again by all three authors.

4. Analysis of Results

Table 3 summarizes the data obtained. In section a) (Content of CSR information disclosed), the low values obtained by the universities in a.1) (General CSR information) reveal a generally low level of commitment (average score: 1.31 out of 5). Of all of the items in this section, those which were least disclosed were the profile of stakeholders and the indicators of implementation in the different dimensions of CSR. However, the results shown in section a.2) (Specific CSR Information) show that this type of information is more fully disclosed, and the highest scores were obtained in this section.

Table 3. Descriptive statistics.

a) CONTENT OF THE SR INFORMATION DISCLOSED ONLINE	MIN	MAX	MEAN	MEDIAN	SD
a.1) General SR content	**0.00**	**3.49**	**1.31**	**1.00**	**1.02**
G1. Expression of the vision and strategy of the university in SR subjects	0.00	1.00	0.37	0.50	0.34
G2. Information on the profile of stakeholders	0.00	0.50	0.01	0.00	0.08
G3. Centralized or decentralized disclosure of SR information by Universities	0.00	1.00	0.41	0.50	0.25
G4. Data on performance indicators	0.00	0.99	0.14	0.00	0.28
G5. Index of contents or a table to locate different elements of SR information	0.00	1.00	0.38	0.00	0.49
a.2) Specific SR content	**0.00**	**2.85**	**1.37**	**1.34**	**0.97**
S1. Information disclosure regarding CSR MANAGEMENT	0.00	0.85	0.41	0.51	0.31
Sa. Energy	0.00	0.17	0.10	0.17	0.09
Sb. Buildings and grounds	0.00	0.17	0.07	0.00	0.09
Sc. Purchasing management	0.00	0.17	0.05	0.00	0.08
Sd. Waste management and recycling	0.00	0.17	0.12	0.17	0.08
Se. Transportation	0.00	0.17	0.08	0.00	0.09
Sf. Food	0.00	0.00	0.00	0.00	0.00
S2. Information disclosure regarding CSR ACADEMIC ACTIVITIES	0.00	1.00	0.56	1.00	0.50
S3. Information disclosure regarding CSR RESEARCH ACTIVITIES	0.00	1.00	0.38	0.00	0.49
a.3) Qualitative characteristics of SR information	**0.00**	**4.00**	**0.88**	**0.50**	**1.01**
Q1. Completeness	0.00	1.00	0.03	0.00	0.16
Q2. Timeliness	0.00	1.00	0.05	0.00	0.22
Q3. Comparability	0.00	1.00	0.13	0.00	0.34
Q4. Understandability	0.00	1.00	0.18	0.00	0.35
Q5. Relevance	0.00	1.00	0.49	0.50	0.44
Q6. Reliability	0.00	1.00	0.03	0.00	0.16
b) CONTEXT OF THE SR INFORMATION DISCLOSED ONLINE	**MIN**	**MAX**	**MEAN**	**MEDIAN**	**SD**
b.1) Usability	**1.63**	**4.13**	**3.33**	**3.57**	**0.64**
U1. Reading and scanning	0.00	0.46	0.13	0.13	0.09
U2. Search	0.00	1.00	0.67	0.50	0.29
U3. Link characteristics	0.00	1.00	0.97	1.00	0.16
U4.Structure of the web page	0.00	1.00	0.59	1.00	0.50
U5. Characteristics of accesibility	0.00	1.00	0.97	1.00	0.16
b.2) Stakeholders participation	**0.00**	**11.83**	**2.40**	**2.16**	**1.71**
SK1. Characteristics of interactivity	0.00	0.66	0.27	0.33	0.27
SK2. Forums or chats	0.00	0.50	0.36	0.50	0.23
SK3. Uses 2.0 Web technology (facebook, twitter…)	0.00	1.00	0.53	0.50	0.16
SK4. If there are online surveys on university matters	0.00	9.50	0.51	0.50	1.50
SK5. If there is a university newsletter	0.00	1.00	0.73	0.50	0.28

Source: The authors

Under the heading of Specific CSR Information, the academic CSR activities obtained the highest score. With respect to CSR management, the most widely disclosed itemsrefer to energy andthe management of residues and recycling whilst the least disclosed onesrefer to sustainable foodand fair trade.

Regarding the qualitative characteristics of the information (section a.3)), low scores were obtained for the content of the CSR information disclosed (0.88 out of 6), which reflects the low priority currently granted in this respect (Table 3).

Very few of the universities analyzed offer annual CSR reports on their websites. The CSR issues that are disclosed mainly appear as technical summaries, usually accompanied by ratios or graphs with comments to make the information more comprehensible for external users. And even when annual CSR reports are published, in many cases the information contained is neither timely nor comparable, since no data are provided for periods of less than one year, and no reference is made to previous years, thus making it impossible to establish comparisons.

We conclude, therefore, in contrast to Lukmanand Glavič [4], that Australian universities are not communicating their socially sustainable actions and policies by means of sustainability or SR reports, which makes it difficult to establish a benchmarking process. Moreover, very few universities communicate information that has previously been certified, accredited or audited (Table 3).

For section b) (Context of the CSR information disclosed), the average scoreforb.1) (Usability) is 3.33 out of 5, with a very low standard deviation (0.64). In this respect, the scores for the different universities are very similar, and the bulk of the score is accounted for by items related to website design, with the inclusion of instruments that facilitate web browsing, such as search engines, and of hyperlinks that help users to examine the information in greater depth. To some extent, these search tools compensate for the general absence of a structured website map.

We note the high scores obtained by all of the universities in section U5 (Accessibility). This shows that the CSR information provided online is mainly free of charge and easy to download. Nevertheless, very few universities have a specific section for CSR information. Moreover, this information is only available in one language, which limits the number of people who can use and understand it, and the formats in which this information is presented (HTLM or PDF) are not easy to adapt.

Section b.2) (Participation of stakeholders) obtained the lowest average score (2.40). The scores awarded were mainly for the news provided on the website and the use of web 2.0 technology. However, universities did not promote communication and participation with stakeholders through other channels, such as e-mail addresses other than that of the webmaster, which would help users to find specific CSR information or to request additional information not included on the website and even to update this information through the creation of a mailing list. Other tools for participation that were not being promoted by universities were forums, chats and online surveys.

The results in this area confirm those obtained in previous studies [64], which highlighted the lack of market orientation among universities in their relationship with stakeholders, together with the weak role played by stakeholders in the government of these institutions. However, our results differ from those of other studies according to which universities are strengthening their relationships with their stakeholders by adapting to their expectations and increasing the influence and participation of stakeholders in university management [23,65–67].

5. Discussion and Conclusions

The reforms undertaken in accordance with the Green Paper [35] led Australian universities to focus on economic rationality.Underpinningthis position is a vision of people (including students) as

human capital [68], which contradicts the ideals of education for sustainable development. Nonetheless, the demonstrable shortcomings of this outlook and the current debate in society regarding the greater involvement of universities in the social environment in which they operate [66] have made the government aware of the need to reform the Australian university system to incorporate SR criteria into education and research [5].

Moreover, in recent years, the demands of society regarding sustainable development have increased universities' interest in social commitment. At the same time, they are seeking to increasethe quantity and quality of CSR information disclosed [65]. The internet is now Australians' preferred means of communication with government agencies [69], and this consideration also increases the extent to which universities must comply with their duty to be accountable to their stakeholders.

Nevertheless, the results of our empirical research show that Australian universities, far from using technology to improve their information transparency and accountability, are wasting this opportunity, both in terms of disclosing CSR information and as concerns involving and interacting with stakeholders in the management of the university with respect to CSR concerns. As Shephard [70] observes, it seems that higher education in Australia is failing to properly address the sustainability needs of society.

Therefore, although previous studies have argued that universities are becoming key players in promoting socially responsible policies [4], the results presented in this paper indicate that Australian universities are relatively uncommitted in terms of online CSR information disclosure, and do not offer complete CSR information on their websites or provide CSR reporting or sustainability reports on the internet. This shortcoming prevents the effective performance of their duty to provide accountability to their stakeholders regarding this type of information, and restricts our knowledge of universities' activities in this field, thereby making it very difficult to establish a benchmarking process among universities that could facilitate their continuous improvement and enhance competitiveness.

We also observed that the CSR information disclosed by Australian universities assigns most importance to environmental questions, which confirms prior findings in this respect [71]. However, this type of information is often hard to find on university websites, normally beingdispersedamong other types of information, such as technical reports, rather than being presented in the form of annual CSR reports, despite researchers' emphasis on the need for these reports [65]. Another option (currently adopted by many private companies) [72] is to integrate all financial and non-financial information into a single report, thus avoiding the dispersal of information.

Furthermore, although universities could make use of the advantages provided by ICT to improve participation and interaction with stakeholders, Australian universities do not currently seem very interested in this question, at least as far as CSR issues are concerned, although in universities elsewhere the influence and participation of stakeholders is increasing [23,65,67]. Our study suggests that Australian universities are not fully committed to their environment, in thatthedesign and implementation of CSR policies currently reflectlittle interest in using technology to compile stakeholders' opinions and suggestions.

As has been observed in non-Australian universities [19], actions with respect to CSR in Australian universities seem to be more related to promoting their legitimacy and image rather than responding to the needs and requirements of the community in which they are operate. Thus, it has been shown that although many university programmes use the term "sustainable"or "sustainability"in their name

(especially at undergraduate level), many do so with the explicit aim of educating for sustainability, according to their web marketing materials [73].

Education on environmental issues and SR is a question of great importance within the universityand for the future of our society. In the subsequent exercise of their profession, students with a sensibility for these concerns will apply the ethical and environmental values that are communicated to them in their university education.

In conclusion, Australian universities currently disclose little online CSR information, and what is provided may be only for the purposes of promoting their legitimacy and image [19] and not with the ultimate goal of satisfying the requirements of stakeholders and complying with their duty to provide accountability. In general, Australian universities do not analyzethe needs of stakeholders, despite theirmajor importance to these and all other organizations.In consequence, the way in which universities communicate and present information remains insufficient.

The universities that are committed to the environment and to SR are those which have developed an awareness in this regard. Communicationofthe impact made by organizations in areas such as SR is an activity of vital importance. Universities, as organizations that constitute a very significant element within society, should opt for clear communication and transparency in their actions.

As major players in the field of education, Australian universities can fulfil an essential role in CSR issuesbyincorporatingthese principles intotheirteaching and research. Only thus can they attract future students who understand and are committed to environmental issues and SR, and hence will be equipped to resolve ethical dilemmas in their work. In turn, universities should commit themselves to communication and transparency in the field of SR, in accordance with their social nature and the accountability required of them. Therefore, Australian universities should improve performance regarding CSR disclosure. Moreover, this could help them differentiate themselves, in today's competitive environment.

In future research in this field, we believe that the disclosure of CSR issues in the university context is an important theme and we suggest that a more specific and in-depth study of these issues should be undertaken as a line of future research. In addition, it would be useful to analyze the main drivers of online disclosure of CSR information and management models, in order to establish efficient means of meeting stakeholders' needs in terms of CSR information, which may becomeaquestion of crucial significance to universities' image and reputation.

Acknowledgments

Author Contributions

Main text paragraph were written by all authors. Manuel Pedro Rodríguez Bolívar and Raquel Garde Sánchez designed the study and obtained the empirical results which were analyzed by Antonio M. López Hernaández. All authors read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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