

# Commitment to sustainability: A content analysis of website for university organisations

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**Abstract.** This research aim on investigating the commitments of organisations towards sustainability. For this research context, ‘commitment’ refers to the extent of information provided by universities in their website which demonstrated initiatives towards achieving the sustainability goal. The objective of this study was to identify sustainability initiatives highlighted within university websites using Australia as a case study. Thirty-nine (39) websites were reviewed and web content analysis was performed to publicly available data including any relevant accessible PDF documents attached to the universities website. Specific websites information was reviewed to detect sustainability themes in the broad university management and operations (i.e., in general policies, corporate mission statements, research activities, positions available and strategies). The commitment of Australian universities was significant and well established with a set of twenty (20) related themes were identified. The findings have some limitations because the established themes only emerged from the websites’ content without human validation which possibly weakens the correlations between website information and organisations actual practice. This possibility is recognised and for this reason, further assessment may be advantageous to provide verification of the findings. Therefore, further studies using other techniques are suggested such as interviews or observations for validation of data and reinforce the entire conclusions. An interesting aspect of this study is the validity of reviewing organisational websites for gauging actual practice and a number of researchers supporting this approached as indicated in methodology section of this paper.

## 1. Introduction

The concept of sustainability refers to efforts to adopt environmental, economic and social dimensions, as well as practices [1, 2]. Generally, organisations are adopting the sustainability principle into practice when they undertake initiatives such as using sustainable, green or socially-responsible materials, involve using environmentally-safe cleaning products; renewable energy for lighting and transportation; recycling or reuse of all waste; applying leadership to influence the industry, that is, buying green energy from green suppliers to drive the industry; and contributing to the community, that is, providing programs to help solve a social problem [1]. Moreover, for the progress organisation, sustainability values must penetrate into all aspects of the organisation [1] and must embed the sustainability agenda within their organisational structure and governance (i.e., by establishing a vision and mission policy incorporating sustainability).



There are various reasons why university organisations are important with regard to sustainability issues. For example, universities can set an example to the community by influencing the way forward by enhancing the sustainability agenda through education, research and their operation. As cited in Amaratunga and Baldry [3], sustainability practices are important to universities due to the following:

- 1) Universities have a range of diverse building types which need more different operational tasks than other organisations;
- 2) Universities are trying to improve their efficiency while facing the challenge of rising operating costs and increasing user expectations;
- 3) Massive expansion has forced universities to achieve more economic use of their facilities.

Therefore, this study is significant to universities as they need new knowledge to accelerate their effort to improve sustainable practice and expand their organisational sustainability outcomes.

This paper highlighted the commitments of organisations towards sustainability by reviewing organisational websites for evaluating actual implementation. An interesting aspect of this paper is the validity of reviewing organisational websites for measuring actual practice. The focus is on university organisation as these institutions are in a unique position to influence the attitudes of the community, government and the private sector towards sustainability. The findings may encourage global discussion to influence the sustainable practice. The paper is divided into five parts. Starting from this introduction, the literature on university commitment towards sustainability, the methodology, followed by results and analysis. Finally, the conclusions are drawn related to the overall discussion.

## **2. University commitment towards sustainability**

Universities organisations have great potential to play a fundamental role in achieving the sustainability goal. The importance of universities with regard to sustainable development is reflected in various international agreements such as the Copernicus University Charter for Sustainable Development issued by the International Association of Universities and the Kyoto Declaration on Sustainable Development issued by the UNESCO World Declaration on Higher Education [4]. These agreements promote universities as key institutions in developing sustainable societies. For example, in the Kyoto Declaration, universities are encouraged to adopt a sustainable development approach in their physical operation and by embedding the environment in education. According to the Association of University Leaders for a Sustainable Future (ULSF 1999) cited in Van Weenen [5], ‘universities can be involved in sustainable development such as in management, planning, development, education, research, operations, community service, purchasing, transportation, design, new construction, renovation and retrofit’(p. 21). Thus, the findings from these organisations can be used as a benchmark in measuring the commitments of other major building owners and occupiers in adopting sustainability. Moreover, the university is one of the significant institutions in the public sector and is a key player in encouraging new approaches. It plays a crucial role in initiating change [6, 7] and is a significant component in the implementation of government policies.

At present, the discussion on sustainable universities has been carried out in the areas of research, education and administration including campus operation [8], and numerous universities around the world are taking steps to improve their management practices to achieve sustainability [9]. For example, 350 universities representing 40 countries have signed a voluntary environmental agreement, the ‘Talloires Declaration’, for institutions of higher learning to show their willingness and readiness to address the sustainability challenges [9]. However, Hitchcock and Willard [1] argued that a single organisation such as a university on its own cannot be responsible for making all of society sustainable. For the successful of this agenda, every organisation should examine its inputs, outputs, processes and effects on the larger system in which it operates. This means that commitments and participation are needed from all parties, both private and public organisations to achieve sustainability goal.

### 3. Methodology

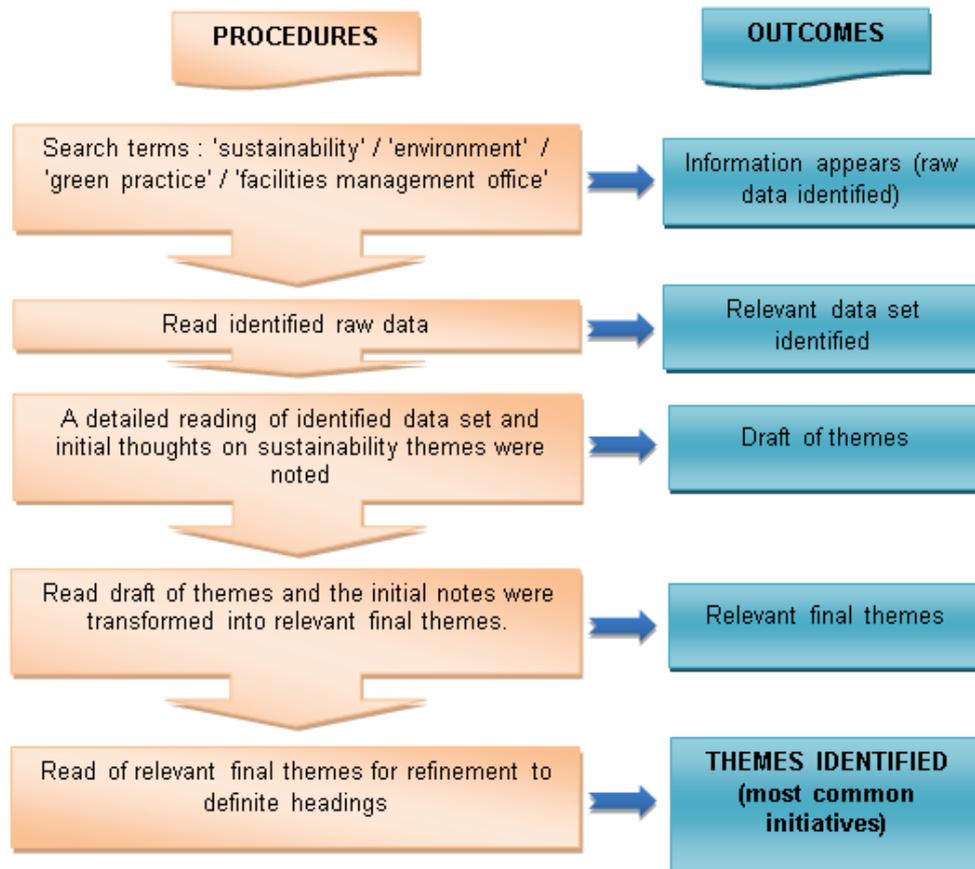
The facts about the adoption of sustainability in the university organisations are not well explored. Moreover, there are varying commitments to sustainable practices between organisations. Thus, to address this knowledge gap, there are needs to conduct a research on the extent of sustainability adoption in university and an investigation of their commitment toward sustainability.

This study performed the website analysis to gather information concerning sustainability initiatives in university organisations. Traditionally, information has been communicated to stakeholders via hard-copy medium such as published annual reports, brochures and newsletters. However, with technological changes and common acceptance of the internet as an ‘organisational’ tool for communication [10], the website has been created to post relevant information [11, 12]. These changes have led to the richness of information on websites and there is evidence of the rising use of websites by corporations as a medium to communicate organisational responsibilities. This is in line with findings by Nejati, Shafaei [13], based on their studies on university mission and vision statements in developed countries, where they found that the majority of universities were highlighting sustainability issues through their websites. In addition, according to Zuo, Zillante [14], in a study of 50 international contractors, they found that almost 80% of the companies revealed their sustainability policies through their websites. Moreover, websites are used to publicise information relating to organisational matters [15] and have been chosen as a data source by many researchers for measuring sustainability practices [16]; identifying corporate social responsibility among the top 10 universities [13]; exploring e-commerce in developing countries [17]; investigating market orientation in local government [18]; investigating hotel information quality [19]; investigating tourism [15, 20, 21]; and examining government sustainability policy [22]. Therefore, this study ascertains that web content analysis is a legitimate research tool.

To establish the themes, content analysis was used to analyse the content of the websites. Content analysis analyses and explores the correlation between texts and possible themes or concepts [23] and it is most appropriate and well accepted in social and environmental research [13]. This method has been used by many researchers such as Zuo, Zillante [14], Denskus and Esser [24], Kim and Weaver [25], Hine [26], Zhang [27], Braun and Clarke [28], Capriotti and Moreno [29], Lambert and O'Halloran [30], and Gill, Dickinson [31].

As for this study, the website analysis involved thirty-nine (39) Australian universities and each website was reviewed manually. This stage reviewed sustainability initiatives in broad university management and operations: concerning general policies, corporate mission statement, goals, research activities, positions available, and strategies. This technique was carried out by utilising publicly available data including any additional accessible relevant documents attached to the university websites. The systematic review of the websites considered the contents posted within the specific timeframe of 1 August to 15 September 2010. The review was conducted by typing specific words (Sustainability, Environment, Green practice, Facilities Management Office) for each university website to find target themes and relevant sustainability information.

The rationale for selecting and using these words was that studying the websites showed that these were the commonly used descriptors. These words were the most relevant for identifying themes and were also consistent with the research objectives. By thoroughly reading the possible sources from the websites, it was then possible to become familiar with the sustainability agenda setting within the universities. Figure 1 below outlines the flow chart for the content analysis of the selected websites.



**Figure 1.** Flow chart for content analysis

The detailed procedure was as follows:

- 1) The information was read numerous times and relevant data sets were identified. These data sets were copied and pasted to the tables in a document with the specific name for each university. A detailed reading was carried out and initial thoughts on sustainability themes were noted in the specific column. These notes related to the sustainability concepts and practices.
- 2) The relevant data were read again and the initial notes were transformed into final themes that were significant and relevant to the research aim and objectives. Any unsuitable and unclear initial notes were excluded.
- 3) The data were read again for refinement of the themes into definite headings based on common practices and articulated within university operations. For the purpose of this research, only the most common themes relevant to the research objectives were identified and chosen. Based on this study, initial thoughts concerning sustainability indicators were established.

#### **4. Result and analysis**

This section reports on the results of the website analysis which collected data on sustainability initiatives undertaken by universities. A set of twenty (20) relevant themes were identified to represent initiatives undertaken by universities as their commitment towards sustainability. Then, the themes were compiled based on the universities' descriptions of their initiatives on their websites. Table 2 depicted the twenty (20) themes emerged and an examples of initiatives in thirty-nine (39) Australian universities websites.

**Table 1.** Sustainability themes emerged in websites of Australian universities

No	Themes Emerged	Examples of Sustainability Initiatives
1.	Statement of future vision	The Australian Catholic University [32] 'is committed to making a substantial contribution to environmental sustainability through the development of its physical infrastructure, recycling of materials and efficient use of all resources'. Macquarie University [33] stated their sustainability vision as: 'Macquarie University is ecologically sound, socially just and economically viable in all of its activities'.
2.	Policy and plan	Australian National University (ANU) [34] created their Environmental Management Plan to fulfil the ANU's environmental policy and other objectives. For the Australian Catholic University [32], their Environmental Management Plan 'ensures all campus operation processes and procedures for environmentally sustainable developments comply with university policy across all campuses'.
3.	Special position (officer/manager)	Various positions such as Project Sustainability Engineer and Environmental Services Manager at the University of Wollongong, Director of Sustainability and Manager of Operational Sustainability at Macquarie University and Recycling and Sustainable Systems Manager and Pollution Prevention Officer at ANU.
4.	Committee/team	The Environmental Management Planning Committee at ANU advises on the performance of environmental management whereas this function is undertaken by the Sustainability Working Group at Macquarie University and the Environmental Advisory Committee at the University of Wollongong.
5.	Department/office/unit	The Green Office at Charles Sturt University [35] coordinates and monitors sustainability performance and the Sustainability Office (ANUgreen) at ANU was established under the ANU environment policy to implement the university's environmental management plan.
6.	Reporting	The Southern Cross University [36] reports on their sustainability initiatives in education and operational activities. RMIT [37] reports its energy and utilities' consumption to both state and federal government.
7.	Energy efficiency	For the University of South Australia [38], various energy efficient projects are featured such as intelligent energy management systems, power factor correction and on-demand lighting. These have contributed to a 700,000 kWh saving per year. In Deakin University [39], a number of energy efficiency programs have been implemented across campus together with energy and emissions audits.
8.	Water efficiency	The University of Tasmania [40] implemented the consumption of reuse water by the installation of rainwater tanks. A program of 'Water Conservation and Management' to reduce water consumption and minimize the pollution of water discharge was introduced in the University of Western Sydney [41].
9.	Waste management (reduction/reuse/recycling)	La Trobe University [42] is establishing strategies for the recycling of organic waste and e-waste, toner cartridges and mobile phones. In Monash University [43], priority was given to a waste recycling program in the area of materials, products and packaging selection.
10.	Biodiversity/ecosystem preservation	The University of Queensland [44] promotes the preservation of birds and possums. ANU's themes on sustainable biodiversity involved drafting a biodiversity management plan and partnership with other parties for a 'Life in the Suburbs' project.
11.	Pollution prevention/emission control	Curtin University of Technology [45] conducted an emissions audit of greenhouse gases (GHG) as part of achieving a sustainable operation. The Comparative Environmental Risk Assessment Method (CERAM) was established at ANU to manage pollution risks to water, air and land.
12.	Green transportation/travelling	Flinders University [46] established the Green Transport Office to enhance student and staff awareness about sustainable transport with the aim being to minimize the number of vehicles with solo occupants travelling to the university. Edith Cowan University [47] introduced 'Travelsmart@ECU' as a medium for communication to guide students and staff in sustainable transport application.
13.	Green building and infrastructure	Bond University [48] has developed the Mirvac School of Sustainable Development which was the first educational building in Australia awarded a 6 Star 'Green Star – Education PILOT Certified' rating for design. The Australian Catholic University

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		constructed the ‘National Centre for Health and Wellbeing’ which was rated the highest Green Star performance for environmental sustainability.
14.	Green procurement/ purchasing	La Trobe University approached sustainable purchasing via supporting energy efficient transport and encouraging sustainable life cycle materials and services. Griffith University [49] stated that ‘employees have a commitment to procuring and purchasing environmentally, socially and economically sustainable products.
15.	Green IT, office and laboratory	The Green Office Program was introduced at La Trobe University to promote sustainability practices and, in addition, ‘EnviroSmart’ was launched to improve awareness in recycling program practices. The University of Adelaide [50] has embarked on sustainable IT projects such as the replacement of the out-dated data centre, screen saver timing and automated lights.
16.	Education (academic programs) and research	The University of Southern Queensland [51] offers several sustainability programs such as the Bachelor of Science (Environmental and Sustainability). Murdoch University [52] has established the Centre for Research into Energy for Sustainable Transport (CREST).
17.	Community engagement	The University of New South Wales [53] has developed a website ‘Teach Sustainability’ to support local schoolteachers in promoting sustainability to the younger generation. The University of Technology, Sydney [54] organised a ‘Sustainable Business Forum’ in the form of dialogue and consultation focusing on corporate social responsibility.
18.	Knowledge enhancement (campaigns and training programs)	The University of Technology, Sydney [54] has created the ‘UTS Alumni Sustainability Network’ to enhance awareness and interest among staff and students. The University of New South Wales [53] has introduced a sustainability support group, ‘Enviro Collective’, involving students conducting activities and campaigning for a greener world.
19.	Alliances with other higher education association	Macquarie University [33] has a commitment with ACTS, the body concerned with sustainability in the Australian and New Zealand tertiary sectors; AASHE, an association responsible for creating a sustainable future for colleges and universities in the USA and Canada.
20.	Collaborations	The University of Ballarat [55] has collaborated with the National Centre for Sustainability (NCS) to support the development of sustainable practices. ANU [34] staff are collaborating with colleagues from other universities in Australia such as via the Intergovernmental Panel on Climate Change (IPCC).

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## 5. Conclusion

Generally, the Australian universities appeared to be progressive in their commitment towards sustainability. Twenty (20) emerged sustainability themes were detected using web content analysis of the selected university’s websites and varied across thirty-nine (39) universities. They demonstrates their commitment to sustainability by upholding numerous sustainable practices throughout the organisation. The commitments refer to the extent of information provided by universities in their website that demonstrated initiatives towards achieving the sustainability goal. Indeed, this study has shown that most universities in Australia were committed in adopting sustainability in their organisational agenda.

The data from this study provided understandings for the research aim of determining the level of sustainability commitments in organisations focusing on Australian universities. However, the findings have some limitations because the established themes only emerged from the websites’ content without human validation and, therefore, the results could be influenced by other factors such as technological issues and the level of transparency of the information that could lead to an inadequate judgment. Therefore, further assessment may be advantageous to provide confirmation of the findings and complementary studies using other techniques are suggested such as interviews or observations to provide validation of data and reinforce the overall conclusions.

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