

**Failing the Future: Key Factors Affecting the Management of
Sustainability Programs in
Universities in the Sydney Basin and Region**

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Along the way I have been fortunate to meet and learn from many fine practitioners in the field worldwide, including academics, industry professionals, students, and especially those who agreed to be interviewed for this thesis. Sustainable practice, like any other management discipline, has its dark places – these people have provided illumination in many different forms and this thesis is the better for it.

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ABSTRACT

Universities in Australia have been engaged in sustainability initiatives for at least the last 25 years. They have a critical role to play in learning, teaching and research around sustainable practice, and a key responsibility as large organisations to exercise stewardship over the resources they manage. However, progress towards becoming sustaining organisations – whereby sustainable practice is embedded in all areas of core business – remains variable across these institutions. In some cases programs have stalled, or significantly regressed. This situation is costly in terms of investment of time and resources. It also means that universities are not meeting their moral obligations and business commitments to students in relation to delivering sustainability education. Sustainability education has been consistently identified as critical in assisting business, industry and communities to deal with the increasingly serious nature of sustainability issues of all kinds.

This thesis examines internal and external factors affecting the development, implementation and management of sustainability programs in universities in the Sydney basin and regions in Australia. The research examined the operational and educational aspects of the universities' sustainability programs, with a focus on the interaction between the types of change management and leadership practices that tend to characterise higher education institutions, and the success (or otherwise) of different types of sustainability initiatives. The extent of student, staff and other stakeholder involvement in the universities' sustainability programs was also investigated.

The research involved desktop audits of participating institutions' sustainability programs, and qualitative, semi-structured interviews with 34 executive, academic and non-academic interviewees from four universities. Gap analysis of desktop data and

content analysis of interview data were undertaken to identify factors affecting the development, implementation and management of university sustainability programs.

Key factors identified included lack of leadership and change management capability around sustainable practice; failure to incorporate sustainable practice into the business operating model, risk management framework and cultural/behavioural norms of the organisation; a lack of professional development opportunity for those with sustainability performance accountabilities; and failure to incorporate sustainability performance accountabilities into role requirements, position descriptions, job contracts and performance accountability structures; failure to mainstream Education for Sustainability in course offerings and across discipline areas from a perspective of sustainability education as business innovation and value add; and a lack of performance monitoring and reporting systems. The hierarchical and siloed nature of universities' organisational structures, and their change-resistant cultures, were also identified as significant contributing factors that contribute to universities failing to implement sustainable practice as a key component of organisational change and renewal.

A governance architecture is proposed for university sustainability programs, underpinned by the theory and practice of strategic leadership and consultative change management. Central to this proposed architecture is the need to view sustainable practice as a core management discipline in its own right, alongside established disciplines such as risk management and corporate governance. Recommendations are included for improving the development, implementation and management of university sustainability programs based on these research findings, and their testing in practice. Areas of ongoing and future research are also identified.

CHAPTER 1 – INTRODUCTION

This chapter provides a broad overview of the research topic, literature and methodology; identifies gaps in the research to date; identifies the questions and sub-questions the study is attempting to answer; and notes the scope and contribution of the research, along with the key assumptions underpinning it. An outline of the thesis is provided at the end of this chapter.

1.1 Background to the research

Over 50 years of research has demonstrated how humanity's activities since the 19th century have increased the rate of global warming to an unforeseen level of intensity, resulting in significant and widespread damage to the environment (Carson 1962; Brundtland 1987; Intergovernmental Panel on Climate Change [IPCC] 2007a; IPCC 2007b; Stern 2007; Flannery 2009; Gore 2009; Lovelock 2009; Werbach 2009; Garnaut 2011). A toxic environment, resource scarcity, global instability and threats to the survival of all species are the major expected consequences – widespread evidence of which is appearing already (Diamond 2005; IPCC 2007a; Stern 2007; Flannery 2009; Gore 2009; Lovelock 2009; Garnaut 2011). While there is a general consensus that action is required, some continue to argue that the cost of addressing the problems is too great. However, the cost to the world's environment, economies and communities of not addressing the issues has been identified as being far higher (Hamilton 2007; Stern 2007; Gore 2009; Lovelock 2009; Sachs 2009; Garnaut 2011).

Recent years have seen a significant increase in investment in sustainable practice across all sectors. This work has been framed from a number of perspectives, including corporate social responsibility; meeting legislative and

regulatory requirements; addressing increasing pressure from environmentally-enlightened stakeholders (including consumers and employees); in terms of resource efficiency and waste management; and in attempting to influence the social and economic agenda with regard to the problems the world is confronting – after all, there is little opportunity to be had in impoverished and degraded markets (Avery 2005; Polonsky 2005; Benn, Dunphy and Griffiths 2006; Gore 2007; Hamilton 2007; IPCC 2007b; Stern 2007; Sachs 2009; Garnaut 2011).

In contrast, efforts to embed sustainability in the research, curricula, advocacy, outreach and community services and operations of the global tertiary education sector have experienced variable success (for example, Barth, Michelsen and Sanusi 2011; Clark *et al.* 2011a; Lemons 2011; Mather *et al.* 2011; Tilbury 2011; Tilbury and Ryan 2011; Wiek, Withycombe and Redman 2011; Winter and Cotton 2012). This is reflected in the Australian context (Carpenter and Meehan 2002; Starik *et al.* 2002; Sammalisto and Arvidsson 2005; Velazquez, Munguia and Sanchez 2005; Sherren 2006; Bekessy, Clarkson and Samson 2007; Holdsworth *et al.* 2008). This variability in outcomes is of concern, given the role universities are expected to play within society in cultivating students' learning experiences in relation to sustainable practice, in being models of sustainability implementation and in producing graduates who are able to function effectively within the sustainability context outside the university environment.

For Australia, the problem is especially pertinent. Australia is highly vulnerable to the impacts of rapid climate change, one of the worst per capita emitters of

greenhouse gases in the world (Hamilton 2007; Garnaut 2008, 2011) and its universities are extremely resource-intensive in terms of use of energy, water and paper and paper-based products in particular. As sustainability becomes an increasingly important issue, Australia's universities may face a time when their reputations and ability to maintain market share are damaged through patchy implementation of sustainable practices. This may be exacerbated even further by universities that continue to graduate students who are not "sustainability aware" into an employment market where employers are increasingly transitioning to sustainable practice (for example, Tilbury, Crawley and Berry 2004; Tilbury and Ryan 2011; Lovins 2012).

Previous research on these issues in the Australian context has often been patchy and there appears to be little related, recent published work. Previous studies have also tended to feature literature/database reviews and surveys (typically small and often with low response rates); and highly focused (for example, one course, one discipline/faculty or one institution). There have been no recent in-depth qualitative studies investigating success (or failure) in managing sustainability programs specifically within the higher education context in the Sydney region. Further, little to no attention has been given to external factors, such as the changing nature of the student body. There has also been little to no attention given to the nature of interdependencies between internal factors, and between internal and external factors. Most importantly, no studies have been conducted within the Australian higher education context examining the potential effect of different leadership and change management approaches on the management of sustainability programs.

This research is, therefore, important in a time when there is sustained and increasing pressure on tertiary education institutions worldwide to integrate sustainability into their organisational values, research, curricula, operations; and advocacy, community and outreach services. On a global basis, universities face the very real risk of accusations of hypocrisy if they persist in researching, evaluating and criticising the efforts made by other sectors to move towards a more sustainable basis of operation, but do not seek to address the same deficits in their own core business and operations. Australian universities are no exception.

1.2 The research problem, aims and questions

This study aims to investigate the key internal and external factors that may be affecting the management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas. This study also aims to examine whether the successful management of sustainability programs challenges established, traditional theories of change management and leadership.

For the purposes of this research, the scope of the term “sustainability” that is applied to this study includes both the operational (for example, facilities, waste, utilities and landscape management) and educational (for example, learning, teaching, research and community engagement) aspects of university sustainability programs. This context also encompasses the strategy, planning, governance, accountability, leadership, change management, reporting, risk management, consultation and communication elements associated with these sustainability programs.

1.2.1 Primary research questions

1. What are the key factors affecting the introduction and management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas?
2. Does the successful management of sustainability programs embody an approach that confirms or challenges hierarchical theories of change management and leadership?

1.2.2 Secondary research questions and sub-questions

1. Which factors affect:
 - 1.1 Facilitation of the transformation of a university's orientation toward a more sustainable basis of operation?
 - 1.2 Direct participation in the design and delivery of sustainability programs by stakeholders such as employees, students, management and external bodies? and/or
 - 1.3 Support of and for the development of implementation and communication strategies for the management of those programs by stakeholders such as employees, students, management and external bodies?
2. At which level/s in the university do 1.1, 1.2 and 1.3 occur?
3. If transformation of a university's orientation toward more sustainable practices is deemed to have been accomplished, which factors also affect the actual process of achieving ongoing sustainability objectives under

established programs (developing, setting, communicating, implementing and monitoring) by those responsible for managing them? Does this become a transactional/frontline process once the transformation is completed?

4. Do individual internal or external factors have a greater level of influence over the management of sustainability programs?
5. Do interdependencies between internal or external factors have a greater level of influence over the management of sustainability programs?

1.3 The research contribution and justification

The concept of sustainability, once marginalised and even at times ridiculed, has become a mainstream consideration in the for-profit, not-for-profit/non-government and public sectors as the global debate on rapid climate change and associated environmental damage continues to intensify. Integration of sustainable practice and core business is now widely regarded as a key element of organisational success and, indeed, a defining feature of high-performance organisations (for example, Werbach 2009; Pratt and Pratt 2010; Avery and Bergsteiner 2011). This is not least because of considerations such as the competitive advantage that may be gained through the power of the “sustainability” brand; pressure from stakeholders (and the marketplace) to achieve sustainability objectives; and the benefits to the organisation that may be gained via, for example, increased customer/employee/stakeholder loyalty, higher levels of repeat and new business and general operational efficiency gains via the minimisation of waste production, re-use/recycling and/or more judicious use of resources.

This research is an important contribution at a time when the evidence suggests that success in setting and achieving sustainability objectives is inconsistent across different business sectors, geographical regions and/or organisational/management cultures (for example, Werbach 2009; Avery and Bergsteiner 2011). Universities are not alone in being criticised for their failure to integrate sustainable practice into their core business of research, learning and teaching; and embed sustainability into their wider organisational values. However, as with any business, universities face both internal and external pressures in relation to sustainability initiatives. There is a need to examine both the organisational/business and educational drivers to understand the variable nature of the results of efforts by universities to implement sustainable practice. For example, a 2004 study conducted by the Australian Research Institute in Education for Sustainability (ARIES) noted that “the limited number of opportunities across Australia, to build capacity for sustainability in the business and industry sector, may help explain why the increasing interest in the area of sustainability nationally has not resulted in a reorientation of business strategy or practice” (Tilbury, Crawley and Berry 2004, Executive Summary, para. 1). The study highlighted the need for business education programs in Australian universities to integrate Education for Sustainability (EfS) as a core component of such programs, and noted that “Australian industry” and “corporate Australia” could “benefit from educated graduates with the ability to contribute to change for sustainability” (Tilbury, Crawley and Berry 2004, Executive Summary, para. 6). However, the report did not make any comment on the fact that Australian universities – both as educational institutions but also very large corporate organisations – could also benefit from EfS, and on a much broader basis, in terms of curriculum, than just business education programs. Australian higher education could also “benefit from educated

graduates with the ability to contribute to change for sustainability” – particularly as the report also identified “a shortage of staff available with the experience and knowledge to teach sustainability” as one of the main barriers to education about and for sustainability (Tilbury, Crawley and Berry 2004, Executive Summary, paras. 3 and 6). Follow-up evaluation of these issues conducted by Tilbury in 2011 indicates that little has changed in the intervening years.

Achieving success in this relatively new area of change management may pose a significant challenge for universities, not least because of their hierarchical, “silo”-oriented, autonomous structures, and traditional, bureaucratic cultures. It is not sufficient to simply understand the “what” of sustainability – particularly “what” might not be working. It is also critical to understand the “why” behind the lack of progress. As with any major change initiative, it is necessary to understand what might convince, inspire or otherwise motivate organisational members to commit to, and participate in, sustainability initiatives; and why and how relationships between factors (as well as the factors themselves) affecting the situation may be preventing progress being made. It is through the direct experiences of those attempting such work in universities that these issues can be explored and investigated further.

1.4 Methodology

This study is timely in that it aims to move beyond the quest to uncover the “objective” factors that may be affecting the achievement of sustainability objectives in higher education institutions, and investigate the actual experiences of those attempting to manage sustainability programs in the university environment.

The study focused on universities in the Sydney metropolitan and outer regional basin. This area is the largest and most densely populated metropolitan/urban regional area in Australia (and it continues to grow) and is, therefore, subject to major environmental pressures. The area is also characterised by the largest cluster of universities/higher education providers in Australia (some of which are among the largest tertiary education institutions in the country) and, therefore, characterised by an intense level of market competition. Seven universities were approached to participate in the research, and four agreed – two inner metropolitan, one outer metropolitan, and one regional.

Desktop research was undertaken to build a profile of each university's sustainability program. These profiles were subjected to gap analysis in order to provide a first-level assessment of program implementation and focus points for the semi-structured interview stage. Interview participants were selected using a stratified approach and comprised those in positions of leadership/management, along with academic and administrative staff. The officer with line management responsibility for each institution's sustainability program was included in the interview pool. Participants were asked to discuss their own stories and experiences of the sustainability program at their university, within a semi-structured interview context. Interviews were then transcribed and analysed to examine concepts and themes that pointed to the key factors affecting the management of the universities' sustainability programs. The results of the analysis of the desktop research and interview transcripts were then compared in order to determine the key factors, internal and external, that formed the "reality" of attempting to manage sustainability programs in the universities of the Sydney area.

1.4.1 *Research approval*

Appropriate protocols and systems were developed and implemented, in relation to issues of ethics, privacy, confidentiality, security and storage of research material, as part of the approval for the use of human subjects in this research, granted in accordance with the policy and procedural requirements of the Macquarie University Human Ethics Committee.

1.5 Thesis outline

Chapter 1 provides an overview of the field of study and summarises the relevant literature. Gaps in the research to date are summarised, and the research problem, aims, objectives and questions are presented. The contributions of this thesis to the field, and justification for this research, are highlighted, followed by an overview of the methodology. The scope of the research, and key assumptions underlying it, follow in Section 1.6.

Chapter 2 comprises a review of the literature on the major fields of interest to this research – sustainability, leadership and change management. Gaps in the literature are identified and explored, leading to the development of the rationale for the research questions and sub-questions. Chapter 2 also explores in detail the significance of this research and the contribution of this thesis to the fields of interest examined in the review.

The methodology for this research is presented in Chapter 3. Explanation of the chosen research approach is followed by presentation of the methodological framework and case study approach. This includes the use of desktop research and semi-structured interviews within the case study context, identification and

justification of the case study subjects, an explanation of the sampling rationale and the importance of narrative data to the research. Details of the analyses undertaken upon the collected data are provided. Information concerning approval to undertake this research, and the provisions made to ensure all ethical, privacy and confidentiality requirements were met, are given at the end of the chapter.

Chapter 4 deals with Phase 1 of the data collection process. Program profiles were built for each case study subject's sustainability activities using a framework developed via the literature review in Chapter 2. The results of the gap analysis conducted on each university's profile are presented.

Chapters 5 and 6 present the findings of the manual and Leximancer analyses conducted upon the transcripts of the interviews. Chapter 7 presents the synthesised findings of this research, following comparison of the results of the desktop research and interview analyses. The research questions are answered, and consideration is given to the practical and theoretical findings of the study in terms of both sustainability in the universities of the Sydney metropolitan and outer regional areas, and potential challenges to hierarchical change management and leadership theory. A governance architecture for sustainability programs in higher education institutions is proposed.

The conclusions of this thesis are provided in Chapter 8. Limitations on this research, and future research directions, are presented at the end of this chapter.

Chapter 9 provides a final series of comments updating the current status of the participating universities' sustainability programs as at 2013.

1.6 Scope and key assumptions

This research was conducted with four universities within the Sydney area. Interviews were conducted on a cross-section of employees from each university with responsibilities related to the development, implementation and management of institutional sustainability programs – these included executive/senior officers, and administrative and academic (teaching and research) staff. Students were not included in this research on the basis that representative views were unlikely to be obtained about the issues being examined without the use of extensive survey and focus group methodology over a number of years and cohorts; and that this research is specifically focused on the experiences of those involved in the work of developing, implementing and managing sustainability programs in universities.

1.7 Conclusion

Chapter 1 provides the foundation for this thesis. The broad field of study was introduced and the relevant literature summarised. The research problem, objectives and questions were presented, and supported by a brief exploration of the contribution of this thesis and the justification for the research. The methodology used in this research was outlined, followed by an explanation of the thesis framework. The scope and key assumptions informing the research were identified.

Chapter 2 explores the relevant literature and gaps in the research in more detail, and presents the research problem, questions and sub-questions. The rationale for each question and sub-question is provided, along with an explanation of the significance and contribution of this research.

CHAPTER 2 – LITERATURE REVIEW

In educating the next generation of professionals, universities have come to realise that they cannot ignore the global shift towards sustainable practice. From the perspectives of good business practice, moral obligation and professional relevance, universities have been compelled to move to more sophisticated practice in the interconnected spheres of economic, environmental and social/cultural activity.

This chapter explores in detail the three main streams of literature that are of relevance to this research – sustainability/sustainable practice (including in relation to the concept of the high performance or sustaining organisation, and specifically to the context of universities), change management and leadership – with a view to examining the key factors that may affect the management of sustainability programs in universities located in the Sydney metropolitan basin and outer region. The combination of population and environmental pressures; the number, and changing nature, of universities (and their students); wider society's expectations of university performance and responsible management, given the level of investment in them; and the resultant level of market competition in the general Sydney area translates to an even greater imperative to properly manage sustainability programs. These issues are discussed in more detail in Chapter 3 – Methodology as part of the case study subject rationale.

Chapter 2 also identifies gaps in the literature, particularly those relating to factors that have not previously been considered; examines the research problem, aims and objectives of interest to this study; and documents the research questions and sub-questions this study aims to answer. The rationale

behind the questions and sub-questions is also developed (Figure 1 provides a visual representation of this process). The significance of, and justification for, the research and its contribution to the fields of sustainability, change management and leadership are explored.

However, as a first step, there is a need to define what the concept of success “looks like” in relation to sustainable practice in universities for the purposes of this research.

2.1 Sustainable practice – what does success look like in a university?

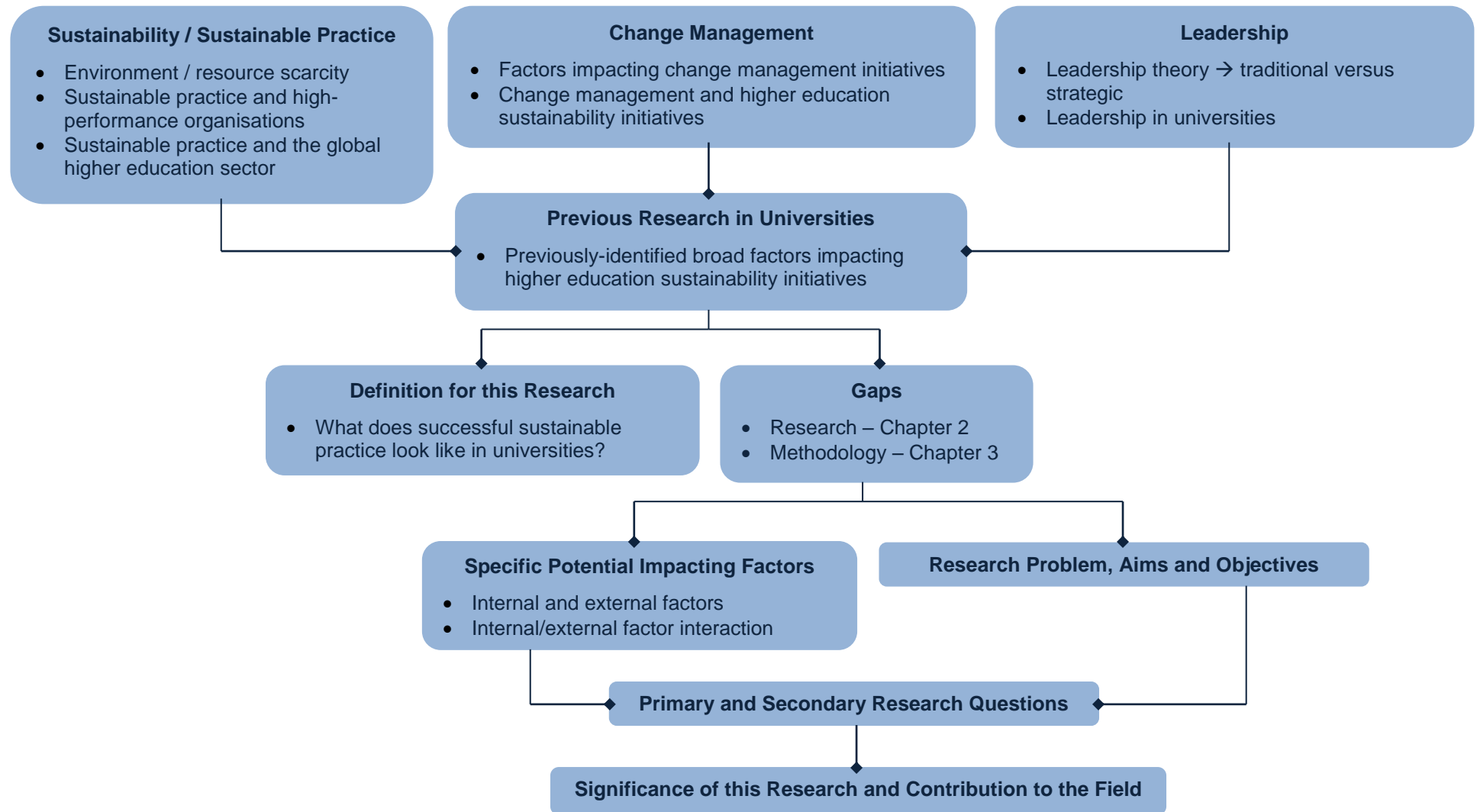
It is extremely difficult to define “success” in absolute terms in relation to sustainability programs in universities, for two main reasons. Firstly, the concept of sustainable practice is a highly contested one in the higher education sector, with each institution designing its own unique combination of program components and initiatives that fit with its institutional history, mission and values; institutional strengths in learning, teaching and research; stakeholder profiles (including surrounding communities); infrastructure and asset holdings; the requirements of its enabling legislation; and its future direction.

Secondly, there are various schemes and systems available to manage and monitor these types of programs. Many of these tools – such as the Global Reporting Initiative (GRI) Sustainability Guidelines¹ and the AccountAbility AA1000 standards² – are time-consuming and resource-intensive to use (for example, Guthrie and Adams 2005). Others are specific to geographic areas (for

¹ <http://www.globalreporting.org/>

² <http://www.accountability.org/>

Figure 1: Process map – literature review



example, the European Union's Eco-Management and Audit Scheme), sectors (for example, the Dow Jones Sustainability Index³ for the private sector; and Sridhar and Jones' [2013] environmental reporting tool for small-medium enterprise) or focused on underlying systems, documentation and procedures rather than actual outcomes (for example, the International Organisation for Standardisation's ISO 14031 and ISO 14001 – the international specifications for environmental measurement and reporting, and environmental management systems⁴) (Dixon, Mousa and Woodhead 2005; Guthrie and Adams 2005). Audit and certification processes also tend to be costly and can generate onerous reporting requirements to maintain accreditation.

Some attempts have been made to rank universities on their environmental performance. The student-led *People and Planet Green League*⁵ annual report ranks universities in the United Kingdom (UK) according to points awarded against a number of criteria, including environmental policy and staffing, ethical procurement and investment, EfS, renewable energy, carbon emissions/management, waste and recycling. The Universities Indonesia *Green Metric World University Ranking*⁶ ranks 215 universities from around the world using points allocated to criteria relating to infrastructure, energy/climate change, waste, water, transportation and education. However, neither of these ranking systems constitutes a strategic framework designed to support the integration of sustainability and core business in higher education institutions.

³ <http://www.sustainability-indices.com/index.jsp>

⁴ <http://www.iso.org/>

⁵ <http://peopleandplanet.org/green-league-2013/tables>

⁶ <http://greenmetric.ui.ac.id/id/page/ranking-2012>

In February 2012, Australasian Campuses Towards Sustainability (ACTS)⁷, in partnership with the Environmental Association for Universities and Colleges in the United Kingdom, launched the *Learning in Future Environments Index*⁸. Initially launched in the United Kingdom in 2011, the LiFE tool, as it is otherwise known, is an internationally-benchmarked performance management, staff engagement and program accreditation system for use by universities and colleges of Technical and Further Education (TAFE) in Australia, with a “sister” system designed for the New Zealand context. LiFE was constructed for the purpose of strategically integrating the business activity of higher education institutions with sustainable practice.

LiFE registered over 50 institutional members as at January 2013. While further analysis will be required to determine the long-term impact of this tool, some implementation issues have been identified by early adopters (for example, Butt and Bennett 2013)⁹. A similar system, the Sustainability Tracking, Assessment and Rating System (STARS), has operated in the United States and Canada since 2009, courtesy of the Association for the Advancement of Sustainability in Higher Education (AASHE)¹⁰. Annual sustainability reports are also slowly emerging in Australia (for example, those published by Macquarie University and La Trobe University).

The long list of confusing terminology with regard to environmental management and performance measurement (often used interchangeably and/or inaccurately), along with multiple definitions and approaches applying to the broader concept of

⁷ <http://www.acts.asn.au/>

⁸ <http://www.thelifeindex.com.au/>

⁹ As at October 2013, ACTS had conducted a member feedback survey regarding the use of LiFE – as a result of this process, several adjustments to LiFE are in the process of being completed.

¹⁰ <http://www.aashe.org/>

sustainability itself, are not helpful to universities' efforts in this regard (for example, Glavic and Lukman 2007; Hull 2008). Neither is the fact that engaging in the more complicated aspects of sustainable practice (such as supply chain management, procurement, major infrastructure projects and EfS) often requires universities to "buy in" specialist expertise and adopt private sector practices. Further, while external verification by an independent third party is generally agreed as essential to credible sustainability reporting and disclosure (and becoming more common), there is little to no consensus regarding methodology and standards for verification processes (Dixon, Mousa and Woodhead 2005; Székely and Knirsch 2005; KPMG International 2008).

There are also a number of more general assessment and ranking systems available that can assist. These are known as phase continuum systems, and they link higher or more advanced phases with deeper and more responsible integration of sustainability components into the day-to-day business of the organisation. Perhaps the most well-known of these is Benn, Dunphy and Griffiths' (2006) Developmental Phases of Corporate Sustainability and, later, Benn, Dunphy and Perrott's (2011) revised Sustainability Phase Model (refer Appendix 1), which is used as part of the first-phase analysis of this research (refer Chapter 3).

In light of these considerations, this research does not attempt to impose yet another definition on the participating institutions' efforts to engage in sustainable practice. Rather, on the basis of systems such as Benn, Dunphy and Griffiths' (2006) Developmental Phases of Corporate Sustainability and the revised Benn, Dunphy and Perrott's (2011) Sustainability Phase Model, and also with reference to systems

such as the GRI and ISO standards, “success” (and failure) in relation to attempts to embed sustainable practice for the purposes of this research is defined as whether:

Sustainability – as it is defined and deployed according to each institution’s goals and objectives – is embedded in the core business of each institution (success) or not (failure).

This definition recognises that “success” and “failure” are not absolute terms in relation to implementation of sustainable practice – rather, in following the work of Avery and Bergsteiner (2010), Pratt and Pratt (2010), Benn, Dunphy and Perrott (2011) and others, this research recognises that the realisation of the sustaining university is a long journey of learning, during which many achievements and setbacks will be experienced along the way to sustainability becoming a strategic and central organising principle for the institution.

The work of Avery and Bergsteiner (2010), Pratt and Pratt (2010), Benn, Dunphy and Perrott (2011), Sukhdev (2012) and others also demonstrates that becoming a sustaining organisation requires more than an understanding of sustainable practice. Two key elements consistently identified in the literature as critical to the success of sustainability initiatives – and, therefore, of particular interest to this research – are leadership and change management. The following sections examine the major streams of thought in the literature relating to sustainable practice, leadership and change management, with a particular focus on these streams as they relate to the global higher education sector generally, and the Australian university environment in particular.

2.2 Stream 1: Sustainability/sustainable practice

The concept of sustainability and its practice within the organisational setting is a highly contested landscape in terms of definition and implementation. However, it is not a new concept, having its origins in ancient times. In modern times, at its most refined, it is characterised by integrated and embedded economic, social/cultural and environmental components, such that, as Pagell, Krumwiede and Sheu (2007) note, the sustainable organisation could continue for an infinite period of time.

2.2.1 *The environment – humanity’s Achilles heel*

Humanity does not occupy a space that is separate from some invisible concept labelled “the environment” (for example, Dawe and Ryan 2003; Harman 2005; Pálsson 2005; McKibben 2006; Werbach 2009; Hamilton 2010; Tilbury and Ryan 2011). Nor is the environment a mechanical “object” – it cannot be manipulated without consequence. As Stead and Stead (1994), Dawe and Ryan (2003), McKibben (2006) and Werbach (2009) note, humanity might be able to think outside the limits, but it cannot live outside the limits. A healthy environment is fundamental to, and a foundation of, healthy economies and communities. Achieving a harmonious balance in this regard requires changes to ways of living, educating and thinking (for example, McKibben 2006; Gore 2009; Sachs 2009; Werbach 2009; Hamilton 2010; Garnaut 2011).

Humans have known for millennia the costs of poor environmental and resource management (for example, Hughes 1975). The decline and fall of civilisations such as Greece, Rome and Easter Island has been attributed, at least in part, to human-induced environmental damage. Deforestation, in particular, was as damaging a

practice then as it is today, resulting in erosion, loss of soil productivity, rising water tables and salt contamination of low-lying areas, clogging of waterways with silt and debris and declining quality and volume of water supplies (Hughes 1975; Diamond 2005). In contrast, the ancient Egyptians are regarded as having been more environmentally aware, and more conservative, in the management of their environment compared with other ancient societies – this is thought to have contributed, at least in part, to the stability and longevity of the Egyptian civilisation (Hughes 1975). A similar view is expressed by Sveiby and Skuthorpe (2006) regarding the societal practices of the Aboriginal people of Australia, deriving the “Nhunggabarra Sustainability Model” from the traditional stories of these people from north-western New South Wales (NSW). While Sveiby and Skuthorpe (2006) acknowledge the vulnerability of this type of derivative work to criticism (such as that of the “environmentalist myth”, whereby historic societal and environmental practices are regarded as being completely benign [for example Flannery 1994]), it is not unreasonable to posit that a collective society, existing more or less in balance for upwards of 40,000 years had sound (what we would now refer to as) sustainability principles underpinning its taught laws and behaviours.

In more modern times, warnings that the Earth’s systems may be showing the early signs of strain began to surface over 50 years ago, when work first commenced on global dimming due to air pollution and its effects on both non-urban (for example, food production) and urban (for example, heat sinks) landscapes (Stanhill 1995; Stanhill and Kalma 1995; Chameides *et al.* 1999; Stanhill and Cohen 2001; Flannery 2005). Rachel Carson’s *Silent Spring*, published in 1962, depicted a world slowly being poisoned by overuse of chemical control.

Since then, studies conducted over the past 20-30 years have demonstrated how humanity's activities since the 19th century's Industrial Revolution have resulted in significant, unsustainable and widespread damage to the environment – most prominent among these was the United Nations' 1987 *Brundtland Report*¹¹, which coined the phrase “sustainable development” (Brundtland 1987). While some progress has been made toward addressing the issues identified in the *Brundtland Report*, it is the view of authors, researchers and international groups such as Flannery (2005, 2009), Roberts (2005, 2008), Ferdig (2007), Gore (2006, 2007, 2009), Hamilton (2007), IPCC (2007a, 2007b), Klein (2007), Stern (2007), Cox *et al.* (2008), Kurz *et al.* (2008), Garnaut (2008, 2011), World Wide Fund for Nature (WWF) (2008), Lovelock (2009), Sachs (2009), Werbach (2009) and Hamilton (2010), that the situation has worsened after a further 25 years of uncontrolled and exploitative development, and widespread political failure. Garnaut (2008), Flannery (2009), Lovelock (2009) and Hamilton (2010) go further to note that the world has squandered the opportunities of the 1990's to experiment with mitigation strategies, and it is now too late for communities to concern themselves with ideas of alleviation. Adaptation will be the strategy of the future – a future characterised by resource scarcity. The evidence is mounting that the impacts on societies and economies due to resource scarcity are also increasing in severity.

2.2.2 Resource scarcity – impacts

The consumption patterns that have been normalised in developed countries, and aspired to by those in developing countries, are unsustainable (Stern 2007; WWF 2008; Gore 2009; Lovelock 2009; Sachs 2009; Werbach 2009; Garnaut 2011).

¹¹ <http://www.un-documents.net/a42r187.htm>

Predictions of future generations living in a toxic environment characterised by polluted air, water and soil; increased temperatures; and more frequent and destructive extreme weather and disaster events, such as drought, floods and storms, have also served to illustrate a future world characterised by resource scarcity (Mirvis 1994; Roberts 2005; Gore 2007; IPCC 2007a; Stern 2007; Garnaut 2008, 2011; WWF 2008; Flannery 2009; Lovelock 2009; Sachs 2009; Werbach 2009). As the past few years have begun to demonstrate, those predictions are rapidly becoming reality, and at a much faster rate than had been predicted.

Resource scarcity – including water, land and food – is not only making living a more expensive exercise in itself, but also more unstable, as resource-driven conflicts increase in scale and number around the globe (Diamond 2005; Flannery 2005, 2009; Judge and Elenkov 2005; Roberts 2005, 2008; Ferdig 2007; Gore 2007, 2009; Stern 2007; Garnaut 2008, 2011; WWF 2008; Lovelock 2009). Increasing rates of overpopulation will worsen the problem (Mirvis 1994; Lovelock 2009). The greatest strain comes from developed nations – those living in the richest 20% of the world's nations use 17 times more energy than those in the bottom 20% (Ferdig 2007). The United States alone produces nearly 25% of the world's greenhouse gases, and consumes 25% of total global bio-capacity (Ferdig 2007). Other research demonstrates that in the period 1950 to 2004, global water use tripled; wood use more than doubled; and the use of coal, oil and natural gas increased nearly five-fold (Ferdig 2007). In Australia, future generations may designate 2008 as the year the Murray River system was permanently damaged beyond repair (Lewis 2008a, 2008b; Peatling 2008).

Issues of equity, social justice, governance, ethics and, ultimately, survival, are tightly bound to the resource scarcity debate – for all species, not just humans (Mirvis 1994; McKibben 2006; Gore 2007, 2009; Stern 2007; Garnaut 2008; Flannery 2009; Lovelock 2009; Sachs 2009). Issues identified in the *Brundtland Report*, including species extinction, genetic erosion, damage to economies and markets, millions of people trapped in poverty and the gap between developed and developing countries remain current and are also linked to the resource scarcity debate.

However, new issues are also emerging, including the emergence of environmental refugees, and the demonstrable loss of low-lying and coastal areas to rising sea levels (Flannery 2005; Gore 2007; IPCC 2007a; Stern 2007; Lovelock 2009; Garnaut 2011). Indonesia's capital, Jakarta, is an extreme example of the impacts – while sinking cities are not a new phenomenon, decades of overdevelopment and depletion of ground water, and more recently rising sea levels, are resulting in the city sinking between 10-20 centimetres per annum (Berg 2012; Roberts 2012).

Failure to cooperate at all levels of society to determine appropriate strategies for the shared and long-term use of available resources in a sustainable manner is resulting in the Tragedy of the Commons unfolding on a global stage (Stern 2007; Garnaut 2008; Flannery 2009; Lovelock 2009; Garnaut 2011). Failure to incorporate cleaner production, waste minimisation, more judicious use of finite and renewable resources and conservation into ways of life (and to ground these activities in educational systems at all levels) are significant contributing factors towards the lack of progress achieved to date (Flannery 2009; Lovelock 2009; Garnaut 2011).

While there is ongoing and active resistance as to the veracity of the claims of the need to take action, a consensus has emerged that humanity needs to act within the next 10-20 years to at least minimise the effects of its own impact on the planet (Flannery 2005, 2009; Gore 2007; Hamilton 2007, 2008; IPCC 2007b; Stern 2007; Lovelock 2009; Sachs 2009; Garnaut 2011). However, the current rate of uptake of the problem is still desperately slow. The available evidence suggests that, despite the research, the warnings and efforts to respond (for example, the carbon trading scheme established by the European Union, which has already had an effect), the rate of progress is not nearly sufficient to begin to address the issue at the global level. Efforts to make progress continue to be retarded by the world's worst per capita emitters of greenhouse gases – the United States, Canada, China and Australia among them (Gore 2007; Hamilton 2007; Garnaut 2008, 2011; Flannery 2009). Garnaut (2011) does note the massive response from China, with planned reductions in emissions intensity of output to 40-45% from 2005 levels by 2020; implementing the world's largest program of sequestration through forestry; increasing the share of non-fossil fuels in primary energy consumption to ~15% by 2020; devolution of carbon targets down to local government levels, which are oversighted by national officials; and working to restructure the energy industry. China's effort has been cited as the largest contribution to reducing global emissions. However, while positive, it is also the case that due to the size of the "Chinese reality", total emissions (and deadly, choking pollution) are still growing rapidly and will do so for some time to come (Garnaut 2011).

Innovative approaches are also being deployed in Europe, such as Sweden's practice of burning rubbish to power its heat and power plants (Ringstrom 2012). Sweden's own waste management and recycling program is so effective it needs to

import waste from all over Europe to meet plant demand (Ringstrom 2012). With Germany, Belgium and the Netherlands also importing waste to drive power plants, huge volumes of waste are diverted from landfill, saving 500kg of CO₂ equivalent per tonne in emissions (Ringstrom 2012). Sweden imported approximately 850,000 tonnes of waste in 2011 (and was paid to do so), and incinerated 5.5 million tonnes of combustible waste in the same year – waste imports are expected to reach two million tonnes in 2016 (Ringstrom 2012).

Another key argument deployed by detractors and critics who attempt to downplay the seriousness of the situation is that addressing the world's environmental problems is too costly – it will destroy or severely incapacitate regional economies, thereby causing recessions/depressions that will, consequently, ruin communities and livelihoods, and result in widespread economic collapse (Dawe and Ryan 2003; Gore 2007; Hamilton 2007). This is despite the evidence to the contrary demonstrating that civilisations that destroy their environment (that is, their resource base) also destroy the social fabric of their communities, and their economies and trading systems (Hughes 1975; Dawe and Ryan 2003; Diamond 2005; Werbach 2009).

By necessity, healthy communities and economies require a healthy environment that may be managed on a sustainable basis for the long-term, in order to reap economic and social benefits (Hughes 1975; Stead and Stead 1994; Dawe and Ryan 2003; Diamond 2005; Ferdig 2007; Gore 2007; IPCC 2007b; Stern 2007; Garnaut 2008; Flannery 2009; Lovelock 2009; Sachs 2009). There is, after all, little opportunity to be had in impoverished, degraded markets (Mirvis 1994; Stead and Stead 1994; Avery 2005; Werbach 2009; Avery and Bergsteiner 2010). This

realisation has led many organisations to focus upon the competitive advantages that may be gained through pursuing sustainable strategies and operations. Of particular interest are the links between innovative and transformational sustainable practice, and high-performance organisations.

2.2.3 *Sustainable practice and high-performance organisations*

There is strong evidence linking sustainable practice and financial performance (for example, Avery 2005; Hart 2007; Lash and Wellington 2007; Lovins, Lovins and Hawken 2007; Stern 2007; Ambec and Lanoie 2008; Garnaut 2008; Sachs 2009; Werbach 2009; Avery and Bergsteiner 2011; Eccles, Ioannou and Serafeim 2011; Kiron *et al.* 2012). Legislative and regulatory compliance is also considered a strong motivator for change (for example, Post and Altman 1994; Stead and Stead 1994; Ryan 2005; Benn, Dunphy and Griffiths 2006; Ringstrom 2012).

However, Wagner and Schaltegger (2004), Judge and Elenkov (2005), Werbach (2009), Avery and Bergsteiner (2010, 2011), Pratt and Pratt (2010), Benn, Dunphy and Perrott (2011), Eccles, Ioannou and Serafeim (2011) and Kiron *et al.* (2012) note several research and case studies demonstrating that the more that firms integrated sustainability concerns into their strategic planning process, the better the firms' financial as well as environmental performance. Further, the more advanced a firm's "environmental technology portfolio" (such as technologies designed to reduce emissions and waste discharge), the better the firm's financial and environmental performance (Post and Altman 1994; Judge and Elenkov 2005; Ferdig 2007; Nidumolu, Prahalad and Rangaswami 2009; Pratt and Pratt 2010; Benn, Dunphy and Perrott 2011). Firms operating in developing economies, in particular, have incentives to protect the environment in order to gain access to

capital and key markets (Judge and Elenkov 2005). An example is Patagonia, an American outdoor clothing and equipment company founded in 1972. Through a process of embedding sustainable practice into its business and marketing strategies, product and process redesign (including the introduction of fleece jackets manufactured entirely from recycled plastic bottles), supply and distribution chains and engagement strategies over several decades, the company has seen sales grow to \$414 million USD in 2012, with a projected sales increase of 30% in 2013 (Pratt and Pratt 2010; Stevenson 2012). The privately-owned company is run on a debt-free basis that incorporates full environmental accounting practices, and its founder Yvon Chouinard now works with companies such as Walmart and Levi Strauss to identify and implement initiatives that reduce costs related to packaging, water and energy (Stevenson 2012).

In recent years, organisations have also realised that more environmentally sophisticated stakeholders (including consumers, employees, and industrial and professional associations) are becoming increasingly concerned with not only product price, reliability and brand status, but also a product's "ecological footprint" – what it consumed to manufacture and distribute it, and what it costs to dispose of it (Mirvis 1994; Post and Altman 1994; Polonksy 2005; Kolk 2008; Werbach 2009; Kiron *et al.* 2012). Customer and employee loyalty is increasingly tied to how "green" the organisation is, what its sustainability mission and objectives are and how effectively these are managed (Mirvis 1994; Polonsky 2005; Werbach 2009; Kiron *et al.* 2012). Failing to adhere to sustainability values and objectives, as well as related environmental performance standards, can lead to customer avoidance, and penalties under standing regulatory regimes.

However, the extent to which sustainable practice is evident in organisations varies widely by industry sector, organisational size and geographically. For example, Germany, Sweden, New Zealand and Switzerland are widely regarded as highly environmentally aware and responsive communities and cultures, while Australia and the United States are not (for example, Avery 2005; Cummins 2008; Kolk 2008; Avery and Bergsteiner 2010; Collins, Roper and Lawrence 2010; Devinney, Auger and DeSailly 2012; Ringstrom 2012). In their 2012 study, Devinney, Auger and DeSailly note that environmental sustainability is “today a middling issue” for Australians generally, although sustainability is a greater concern of older people and those with higher levels of education.

The housing sector provides a useful example to compare effort at the national level to reduce energy consumption and carbon emissions. The focus is often on government policy in relation to housing. However, there are obvious implications for construction companies, their suppliers and other organisations (for example, various manufacturing operations) in relation to integration of sustainable practice into their business. Newton and Tucker (2011, p.35) note that the Australian “housing sector has failed to sustain any significant initiatives in the carbon reduction process since the introduction of the energy-rating scheme for new homes in 2003”.

In contrast, governments in other countries have set energy and carbon management requirements for new housing. For example, new homes in the United Kingdom must be zero carbon¹² by 2016; in the Netherlands, 50% of new homes to

¹² Buildings that use carbon dioxide equivalent emissions-free energy over the entire year which is sufficient in quantity to supply all household energy needs (both dwelling operations and appliances) for any lifestyle (Newton and Tucker 2011).

be (net) zero energy¹³ by 2016; and in the state of California, new homes to be zero net energy by 2020 (Newton and Tucker 2011). Modelling conducted by Newton and Tucker (2011, p.48) demonstrates how interventions around construction of buildings themselves; built-in appliances (for example, heating, cooling, and lighting); and energy generation are “capable of significantly reducing the carbon footprint of housing in Australia”. Newton’s research (2012a, 2012b) moves beyond the housing sector and focuses on regeneration and renewal of urban precincts through efficient design and innovative use of technology, and links with integrated infrastructure systems such as waste, water and transport.

Newton and Tucker’s (2011) modelling, and the work undertaken on urban renewal by Newton (2012a, 2012b), also signal the required changes in the business strategy, operating models, technologies, products and processes of industry sectors such as the construction and manufacturing firms supplying the Australian housing sector and wider urban environment; and also energy, transport, waste, water and communications and information technology, in relation to sustainable practice.

As a further example, research conducted into sustainability trends in New Zealand businesses notes an “average increase of 10% in the number of companies adopting environmental practices from 2003-2006” (Collins, Roper and Lawrence 2010, p.483). However, Collins, Roper and Lawrence (2010) also highlight the risk of sustainability as an increasingly unaffordable practice for small-medium enterprise when the organisation attempts to move beyond the “low-hanging fruit” (such as recycling) and into more innovative activity (for example, product and process redesign).

¹³ Buildings that supply as much energy to the grid over the course of a year as they use, without any reference to carbon dioxide equivalent emissions (Newton and Tucker 2011).

In contrast, researchers and authors such as Avery and Bergsteiner (2010), Pratt and Pratt (2010) and Sukhdev (2012) highlight the innovations in sustainable practice of several national and multinational companies with the resources to support sustainability initiatives of greater scope and complexity (many of which have origins as small-medium enterprises, such as the Body Shop).

Organisations can, therefore, leverage sound sustainable practice, along with marketing and advertising strategies, to differentiate themselves in competitive markets. Full integration of sustainable practice into an organisation's value chain results in greater differentiation, particularly in areas such as design, technology, packaging, through dealer and supplier networks, customer service models, human resource management (environmental training and awareness programs for staff), the establishment of environmental databases and accounting, cleaner production and reduced waste (Roy and Vezina 2001; Avery 2005; Werbach 2009; Pratt and Pratt 2010; Benn, Dunphy and Perrott 2011; Kiron *et al.* 2012).

Therefore, organisations that can demonstrate achievement of sustainability objectives may be more likely to realise healthier business returns, cleaner/more efficient operations, reduced costs, higher repeat/new business, increased levels of customer loyalty, improved community relationships and lower employee turnover (Roberts and Gehrke 1996; Roy and Vezina 2001; Polonksy 2005; Benn, Dunphy and Griffiths 2006; Avery and Bergsteiner 2010, 2011; Collins, Roper and Lawrence 2010; Pratt and Pratt 2010; Benn, Dunphy and Perrott 2011; Eccles, Ioannou and Serafeim 2011; Kiron *et al.* 2012). This last issue is particularly important with regard to predicted serious labour shortages and ongoing "talent wars" around the world, including Australia, Europe, the United States, Japan and

IndoChina; the advent of the (debatable) concept of the “boundary-less career”; and, therefore, the ability of organisations to attract and retain staff (Arthur and Rousseau 1996; Higgins 2001; Lichtenstein and Mendenhall 2002; Fotakis and Coomans 2003; Organisation for Economic Cooperation and Development [OECD] 2004; Cotis 2005; Griffiths, Benn and Dunphy 2005; Australian Government and Productivity Commission 2006; Benn, Dunphy and Griffiths 2006; Ferdig 2007; Pagell, Krumwiede and Sheu 2007; Inkson *et al.* 2010; Dobbs, Lund and Madgavkar 2012).

However, what particularly characterises the high-performance, sustainable organisation is a high level of integration between leadership and change management practices and behaviour; and a clear recognition that leading the management of change is critical to the achievement of goals and objectives (for example, Avery 2004, 2005; Werbach 2009; Pratt and Pratt 2010; Benn, Dunphy and Perrott 2011; Eccles, Ioannou and Serafeim 2011; Kiron *et al.* 2012). Examples from around the world include organisations such as Interface Carpets (its *Mission Zero* – zero waste – strategy), Putumayo (world music supplier), Dilmah Tea (single-origin sustainable tea production), Fuji-Xerox (information management services), Patagonia (outdoor clothing), Munich Re (global finance), Kärcher (cleaning solutions), BMW (vehicle manufacturing), Siam Cement Group (construction) and Novartis (pharmaceuticals) (Avery 2004, 2005; Werbach 2009; Pratt and Pratt 2010; Avery and Bergsteiner 2011; Benn, Dunphy and Perrott 2011; Stevenson 2012).

These organisations are regarded as leaders in sustainable practice, not least because they leverage strategic leadership behaviour and a considered, consultative

approach to change management to achieve long-term organisation-wide transformative change. By leveraging such capability, they are also leaders in their respective industries in terms of being highly profitable, socially responsible, environmentally proactive and have remained viable over the long-term. These organisations also demonstrate that it is possible to successfully manage one of the most challenging aspects of engaging in sustainable practice – that of accepting the environment itself as a significant organisational stakeholder (for example, Stead and Stead 1994; Kolke and Pinske 2006).

In their success, these organisations also demonstrate that reorienting an enterprise toward a more sustainable basis of operation is a challenging task with significant change management and leadership implications. Sustainability is not a “blanket option” – it must be carefully honed to the specific circumstances of individual companies operating within distinct industries (Dunphy, Griffiths and Benn 2003; Salzmann, Ionescu-Somers and Steger 2005; Werbach 2009; Kiron *et al.* 2012).

Sustainability triggers changes to planning and business operations – it may also trigger major change and conflict for employees, as they are required to orient themselves to new modes of operation and ways of thinking that may be unfamiliar and difficult to adjust to within the context of a global society that tends to be generally characterised as “throwaway”, with its overall high levels of consumption and suboptimal levels of recycling (Griffiths, Benn and Dunphy 2005; Benn, Dunphy and Griffiths 2006). Sustainability programs may not be perceived to be as important as other initiatives, benchmarks and key performance indicators, and unsuccessful attempts to manage them may lead to confusion, stress and

disillusionment (Griffiths, Benn and Dunphy 2005; Benn, Dunphy and Griffiths 2006).

Executive-level commitment can be highly variable. For example, the 2010 *United Nations Global Compact (UNGC)-Accenture CEO Study* reported 766 respondents to its online survey, with the survey findings indicating that “93% of CEOs see sustainability as important to their company’s future success” (UNGC-Accenture 2010, p.10). Further, sustainability will be “something fully integrated into the strategy and operations of a company” (UNGC-Accenture 2010, p.11). Of the 766 respondents, 439 were from Europe, 156 from the Americas, 113 from the Asia Pacific and 58 from Africa and the Middle East. In contrast, the 2012 *15th Annual Global CEO Survey Report* conducted by PricewaterhouseCoopers found that, with the exception of energy costs, sustainability-related risks and opportunities were not reported once by Chief Executive Officers from 60 countries during 1,258 interviews. In this study, the majority of interviewees (440) were from the Asia Pacific region, while interviewees from Western Europe numbered 291, North America 236, Latin America 150, Central and Eastern Europe 99 and the Middle East and Africa 53.

Within the global higher education sector, and specifically within Australia, there is evidence to suggest that sustainability programs have a poor record of achievement against defined objectives, and often remain empty “motherhood” statements (for example, Carpenter and Meehan 2002; Starik *et al.* 2002; Griffiths, Benn and Dunphy 2005; Sammalisto and Arvidsson 2005; Velazquez, Munguia and Sanchez 2005; Sherren 2006; National Wildlife Federation (NWF) 2008; Beringer, Wright and Malone 2008; Butt, More and Avery 2012; Adams 2013).

2.2.4 Sustainable practice and the global higher education sector

Among the many global charters and declarations relating to sustainability signed over the past 20 years, several international initiatives were developed specifically for the higher education sector (Thomas 2004), including the:

- Talloires Declaration (University Leaders for a Sustainable Future) (1990)¹⁴;
- Halifax Action Plan for Universities (1991);
- Swansea Declaration for the Association of Commonwealth Universities (1993);
- Kyoto Declaration of the International Association of Universities (1993); and the
- Bonn Declaration (2009) – the commitment from participants at the United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Conference on Education for Sustainable Development [ESD] to ESD at all educational levels).

Of particular pertinence to universities are the United Nations' *Principles for Responsible Management Education*, signed in 2007¹⁵:

¹⁴ The *Talloires Declaration*, signed in 1990 in Talloires, France, is a 10-point action plan created by the Association of University Leaders for a Sustainable Future. The Declaration has been signed by more than 350 university presidents and chancellors at institutions in over 40 countries. The 10 action points are:

1. Increase awareness of environmentally sustainable development;
2. Create an institutional culture of sustainability;
3. Educate for environmentally responsible citizenship;
4. Foster environmental literacy for all;
5. Practice institutional ecology;
6. Involve all stakeholders;
7. Collaborate for interdisciplinary approaches;
8. Enhance capacity of primary and secondary schools;
9. Broaden service and outreach nationally and internationally;
10. Maintain the movement.

¹⁵ <http://www.unprme.org/>

1. Principle 1: Purpose – we will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy;
2. Principle 2: Values – we will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the UNGC;
3. Principle 3: Method – we will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership;
4. Principle 4: Research – we will engage in conceptual and empirical research that advances our understanding about the role, dynamics and impacts of corporations in the creation of sustainable social, environmental and economic value;
5. Principle 5: Partnership – we will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges;
6. Principle 6: Dialogue – we will facilitate and support dialogue and debate among educators, students, business, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability.

By engaging in sustainability initiatives themselves, universities are able to contribute directly to society through:

1. Being models of sustainable practice;

2. Deploying teaching and learning practices that contribute “sustainability aware” graduates to society and the workforce;
3. Expanding the sustainability frontier in the course of undertaking research activity and engaging in partnerships with commerce and government; and
4. Supporting and encouraging sustainability initiatives in the community through engagement, outreach and advocacy programs.

However, efforts to embed sustainability into curricula, research, outreach services, advocacy and operations of the global tertiary education sector have continued with variable success for many years (Carpenter and Meehan 2002; Starik *et al.* 2002; Sammalisto and Arvidsson 2005; Velazquez, Munguia and Sanchez 2005; Sherren 2006; Christensen *et al.* 2008; Cordero, Todd and Abellara 2008; Holdsworth *et al.* 2008; Beringer, Wright and Malone 2008; Ferrer-Balas *et al.* 2008; Butt, More and Avery 2009a, 2009b, 2011a, 2011b; Adams 2013). There is also an increasing risk of the commitments of numerous institutions from many countries, and indeed of statements such as the *Talloires Declaration*, being dismissed as “greenwash” (for example, Carpenter and Meehan 2002; Wright 2002; Thomas 2004; Sammalisto and Arvidsson 2005; Velazquez, Munguia and Sanchez 2005; Ramirez 2006; Bekessy, Samson and Clarkson 2007).

The situation in the Australian higher education sector reflects the global context, with a number of institutions listed as signatories to the Declaration¹⁶. The most recent major Commonwealth review of the Australian higher education sector

¹⁶ Australian signatories to the *Talloires Declaration* as at October 2013: Australian National University; Bond University; Byron Community College; Canberra Institute of Technology; Charles Sturt University; La Trobe University; Monash University; Royal Melbourne Institute of Technology; Southern Cross University; Swinburne University of Technology; University of Canberra; University of Melbourne; University of Newcastle; University of New England; University of New South Wales; University of Queensland; University of Tasmania; University of Technology, Sydney; University of the Sunshine Coast; University of Western Sydney; University of Wollongong

noted that the sector is not blind to consideration of the various issues around sustainability (Bradley *et al.* 2008). Although the literature indicates that the discourse and research about sustainability in universities is by no means as active in Australia as it is in Europe and the United States, indications are that Australian universities have also been engaged in attempts to embed sustainable practices into their core business for approximately 20 years – again, with variable success (Carpenter and Meehan 2002; Starik *et al.* 2002; Sammalisto and Arvidsson 2005; Velazquez, Munguia and Sanchez 2005; Sherren 2006; Holdsworth *et al.* 2008; Beringer, Wright and Malone 2008; Butt, More and Avery 2009a, 2009b, 2011a, 2011b; Adams 2013). Sustainability programs of varying lifespan, scope and level of operational progress exist within the sector; however, no Australian university is yet recognised as being successful in fully mainstreaming its program across and within the institution – in particular, with regard to embedding sustainability into the core business of learning, teaching and research (Carpenter and Meehan 2002; Holdsworth *et al.* 2008). There have been some significant advances, however, with the Australian National University's *ANUgreen* winning the 2009 *Impact Award* from the International Sustainable Campus Network (ISCN), which recognises efforts to use campus development and management to create impact for research, teaching and campus community involvement. The university's sustainability program was recognised for its achievements in relation to water use reduction, reductions in carbon dioxide emissions from its vehicle fleet and community awareness-raising; and for having made substantial progress towards targets relating to energy use, carbon dioxide emissions emitted via electricity and gas, waste reduction and environmental risk and biodiversity management¹⁷. However, on a comparative basis with organisations such as Interface Carpets,

¹⁷ www.anu.edu.au

Dilmah Tea, BMW and Patagonia, the higher education sector is many years behind the private sector in relation to understanding, and moving to realise, the full organisational benefits that may be achieved by reorienting toward a more sustainable basis of operation.

The ongoing failure to integrate sustainability into curriculum and delivery is of particular concern and is the focus of the next section.

2.2.4.1 *Students and Education for Sustainability (EfS)*

Ongoing research indicates that the need for education institutions to ensure that the cultivation of ecological intelligence is an essential part of every student's learning experience remains a strongly-held view, with education seen as key to progressing communities towards sustainable practice (for example, Barth, Michelsen and Sanusi 2011; Khelghat-Doost *et al.* 2011; Lemons 2011; Stark 2011; Heffernan 2012). There is a need for curriculum and courses to gear students for the job market, which demands applicants with a basic know-how and training on sustainability; while candidates with a strong knowledge of sustainability are better positioned to fill more senior job openings and contribute to leading their companies into the future (Barth and Timm 2011; Khelghat-Doost *et al.* 2011; Lovins 2012).

In Australia, the Federal Government's national action plan for EfS, *Living Sustainably*¹⁸, defines the principles of EfS as:

1. Transformation and change – EfS is not simply about providing information but involves equipping people with the skills, capacity and motivation to

¹⁸ <http://www.environment.gov.au/education/nap/>

- plan and manage change towards sustainability within an organisation, industry or community;
2. Education for all and lifelong learning – EfS is driven by a broad understanding of education and learning that includes people of all ages and backgrounds and at all stages of life, and takes place within all possible learning spaces, formal and informal, in schools, workplaces, homes and communities;
 3. Systems thinking – EfS aims to equip people to understand connections between environmental, economic, social and political systems;
 4. Envisioning a better future – EfS engages people in developing a shared vision for a sustainable future;
 5. Critical thinking and reflection – EfS values the capacity of individuals and groups to reflect on personal experiences and world views, and to challenge accepted ways of interpreting and engaging with the world;
 6. Participation – EfS recognises participation as critical for engaging groups and individuals in sustainability;
 7. Partnerships for change – EfS focuses on the use of genuine partnerships to build networks and relationships, and improve communication between different sectors of society.

Within the EfS paradigm, achieving “sustainability” requires an understanding of the interconnectedness of social (including cultural), environmental, economic and educational systems (Department of the Environment, Water, Heritage and the Arts [DEWHA] 2009). Further, EfS principles go beyond Education *about* Sustainability (EaS), by fostering attitudinal and behavioural change and skill development amongst learners, which enable them to pursue sustainable ways of

producing, working, consuming and living (DEWHA 2009) (hence the term, “Education for Sustainability” or “EfS”).

Living Sustainably focuses on four strategies – leadership from the Federal Government, reorienting education systems to sustainability, fostering sustainability in business and industry and harnessing community spirit to act. The plan notes that “through information and awareness, but more importantly by building people’s capacity to innovate and implement solutions, education for sustainability is essential to re-orienting the way we live and work and to Australia becoming a sustainable society” (DEWHA 2009, p.3).

Living Sustainably speaks directly to the role of universities in this regard, with an objective that EfS is integrated into all university courses and subject areas and that campuses are managed in a sustainable way. This objective recognises the existence of formal, and “hidden” or informal, curriculum, with the potential of campuses to be experiential, place-based learning spaces about and for sustainability. A study by Winter and Cotton (2012) in the United Kingdom indicated that making the informal curriculum (for example, via on-campus sustainability fairs, expos and festivals) more visible to students could assist with “formal” literacy and also changes that result in pro-environmental behaviour.

However, as the United Nations 2005-2014 Decade of Education for Sustainable Development¹⁹ draws to a close, the available evidence indicates that the degree to which EfS is embedded in curriculum is inconsistent and unclear. Tilbury’s (2011) review of the Decade of Education for Sustainable Development 2005-2014 has

¹⁹ <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/>

underscored the paucity of evidence on EfS efficacy and calls for the development of cases studies and in-depth examinations. More specifically, the review concluded that there is:

“...a noticeable lack of data to show how [EfS] objectives and outcomes are achieved. This relatively new field is only at the very earliest stages of generating the type of comparative and evaluative overview that provides a picture of effective processes and practices. ... is there a direct relationship between processes and outcomes in [EfS]? ... it is not possible to provide clear-cut answers on the basis of this review of literature. However, external review of case study findings, anecdotal evidence from individual program evaluations and reflections of program leaders seem to suggest that there are links that should be explored in more detail” (Tilbury 2011, p.8).

While Thomas (2004), Thompson and Green (2005) and others report failure against sustainability objectives, progress is notable in some cases, for example:

- Environmental education is now a component for certification by the National Council for Accreditation of Teacher Education in the United States; further, the North American Association for Environmental Education developed environmental education standards for pre-service education and professional development in 2007 (Williams 2011);
- Leuphana University of Lüneberg in Germany requires all of its first-year students to undertake the “Leuphana Semester”. The “Semester” combines four modules of general and interdisciplinary studies with a week of project work, an introduction to their chosen major, an introduction to scientific

studies and a four-day conference on sustainability where students present on their project work. One third of the content of the “Semester” is devoted to sustainability studies. A study conducted by Barth and Timm (2011) with over 1,000 responses indicated that approximately 75% of students liked the model, and 75% said they thought the “Semester” was useful for their professional future;

- Partnerships between education institutions and not-for-profit organisations, such as that between WWF International and the University of Exeter in the United Kingdom, in developing the “One Planet MBA”. Tilbury and Ryan (2011) describe the “One Planet MBA” as a unique program that brings together business and sustainability expertise from all over the world, seeking to build an ongoing network and educational platform to address the failings of current MBA programs. Launched in 2010, the program was founded by WWF in collaboration with the University of Exeter in an effort to “transform the way we teach business and inspire a new generation of leaders” (WWF International, 2011). The program uses case studies and leadership experiences to provide an MBA experience that supports responsible business leadership, an approach echoed in its global One Planet Leaders offering with the International Institute for Management Development (IMD) in Switzerland, which supports business leaders to “embed sustainability into the core of your business, develop your ability to drive change and leverage sustainability as a driver of innovation and growth” (Tilbury and Ryan 2011, p.139). These programs build upon a decade of prior WWF initiatives that sought to change business practice through the development of business alliances and business training frameworks (Tilbury and Ryan 2011; WWF 2011);

- Similarly, Wright (2002), Lipscombe *et al.* (2008) and Sammalisto and Brorson (2008) provide a contrast in the more successful, intervention-based approach undertaken by universities in the United Kingdom and also specific institutions in Sweden (the universities of Gävle and Göteborg) and Canada (the University of Waterloo) (including awareness campaigns, occasional lectures and training and personal development opportunities across the staff and student profiles).

However, the outcomes of these types of efforts in terms of their influence on student learning and behaviour are currently unclear (Shephard 2010; Barth, Michelsen and Sanusi 2011; Clark *et al.* 2011a; Lemons 2011; Mather *et al.* 2011; Tilbury 2011; Tilbury and Ryan 2011; Wiek, Withycombe and Redman 2011; Winter and Cotton 2012). Further, the general trend, as indicated by the literature, is that efforts to embed EfS in curriculum remain largely unsuccessful. In higher education, in particular, efforts to embed sustainability in curriculum in the United Kingdom have met with widespread indifference and in some cases, active resistance (Winter and Cotton 2012). A similar pattern is seen in the United States and Europe (for example, Aznar Minguet *et al.* 2011; Clark *et al.* 2011a; Lemons 2011; Richter and Schumacher 2011; Stark 2011; Williams 2011; Hammond and Heron 2012; Lovins 2012). Further, Tilbury and Ryan (2011) note the work of the European Academy for Business in Society – although 76% of senior executives see the imperative for leaders in dealing with the challenges of sustainability, fewer than 8% think that business schools are providing the right kinds of skills development in this area.

Numerous barriers to the integration of EfS into curriculum have been identified, including²⁰:

- The focus on short-term budgeting and planning horizons now typical of education institutions;
- Anachronistic, silo-oriented organisational structures, cultures, resourcing and processes;
- Failure to reform, contextualise and integrate contemporary content in an interdisciplinary sense and provide “real world” opportunities to gain experience and connect global principles with their local manifestations;
- Inflexibility, lack of interest and resistance to change by academic staff, and failure by educational institutions to employ practitioners as educators;
- A persistent view that the responsibility for change lies only with the institution and the state, rather than also at the personal level;
- Lack of interest from students themselves; and
- A continuing tendency to offer sustainability content in elective format rather than as a central organising principle, identified as key to information literacy and a core competency of graduates.

Others suggest a growing tendency of education institutions to respond primarily to the political interests of society’s more powerful sectors, including economics and business, to the cost of other disciplines (for example, Chapman 2011; Lemons 2011).

²⁰ Thomas and Benn (2009), Rusinko (2010), Shephard (2010), Alcaraz, Marcinkowska and Thriuvattal (2011), Barth, Michelsen and Sanusi (2011), Barth and Timm (2011), Butt, More and Avery (2011b), Clark *et al.* (2011a), Hegarty *et al.* (2011), Lemons (2011), Mather *et al.* (2011), Luck (2011), Richter and Schumacher (2011), Stark (2011), Tilbury and Ryan (2011), Wiek, Withycombe and Redman (2011), Feng (2012), Hammond and Heron (2012), Leeuw *et al.* (2012), Lovins (2012), Williams (2012), Yarime *et al.* (2012), Adams (2013).

The fact that universities continue to fail to embed EfS across their core business of learning and teaching directly translates to failure to provide adequately-prepared employees to a marketplace that increasingly requires recruits with an ability to apply sustainable practices. This ranges from being able to identify opportunities for more efficient resource management in various workspaces, to applying sustainable practice as a management discipline, alongside work health and safety, risk management, business planning and project management.

While there appears to be little recent published work in this area from Australasia, a lack of progress in embedding EfS in learning and teaching in Australian institutions was also observed in work conducted by Tilbury, Crawley and Berry (2004), Ramirez (2006), Sherren (2006) and Mather *et al.* (2011), among others. *Living Sustainably* observes that the “principles and practical application of education for sustainability” are not well understood (DEWHA 2009, p.3). Historical reports on attempts to implement the NSW Government’s *Learning for Sustainability Environmental Education Plan (2002-2005 and 2007-2010)*²¹ reveal that implementation was inconsistent and patchy, with little real support or funding made available (NSW Council on Environmental Education 2006a, 2006b). Further, the plan was not renewed under the NSW State Liberal Government elected in 2011.

The Fifth Estate’s *2012 University Guide – Sustainability Education Courses* underlines the continuing issues – while universities should be congratulated on their efforts to offer sustainability content at the course and/or unit/major/minor levels, courses on offer still tend to be concentrated in the engineering, urban

²¹ <http://www.environment.nsw.gov.au/cee/lfs.htm>

planning and science disciplines. Consequently, Australian governments do not have a robust evidence base upon which “to guide policy development, set priorities for action, identify best practice, assess barriers to change, evaluate the impact of policies and programs and guide individual, organisational and community action” (DEWHA 2009, p.13).

The ramifications of this situation extend beyond failure to teach students about sustainable practice. It also means that students are not being taught how to think critically about the future challenges facing their world – this includes sustainability, but also complex problem solving, systems thinking and change management. Sustainability is an evolving field in both research and practice and students need to be able to acquire the skills to innovate and change (Barth and Timm 2011; Clark *et al.* 2011a, 2011b; Khelghat-Doost *et al.* 2011; Stark 2011; Lovins 2012). Stark (2011) highlights a growing and disquieting trend in the United States whereby the education system increasingly produces what are referred to as “environmental illiterates” – those lacking the skills and training to understand the environmental/social/economic dimensions of human-environment interactions.

This leads to the issue of the prevalence of certain generalised assumptions regarding the modern student’s commitment to the ideals and needs of a sustainable society, and how such assumptions may be affecting decision-making in relation to sustainability programs being developed and implemented within the university context. Given that students are key stakeholders and income generators for universities, and a focus on sustainable practice is an indicator of high-performance organisations across all sectors, it is critical that universities ensure that their own

decision-making in relation to sustainability programs is evidence-based, rather than being based upon anecdote and assumption.

However, the assumptions that 1) the attitudes of younger generations are characterised by “the green student”, and 2) reputational damage could be caused to universities by such students choosing to study at, and participate in, an institution that has a functioning sustainability program over an institution that does not (or that does not have such a program at all), is rarely tested in reality (Harvey, Bosco and Emanuele 2010; Crosbie and Houghton 2012). For example, unlike market research activity conducted upon consumer attitudes and behaviour in the private sector, in particular, students in the Australian higher education sector (domestic and international) are not directly asked, as part of the sector’s major survey activity (the Course Experience Questionnaire or the Australasian Survey of Student Engagement), about their views, expectations and experiences in undertaking their course in relation to their institution’s sustainability program. This contrasts with research from other countries indicating that student attitudes towards the environment and “green issues” are an active area of investigation (for example, Cordano *et al.* 2010).

While many universities do provide numerous and varied opportunities for students to engage with the sustainability agenda once they are enrolled in the institution, this is not equivalent to having an evidence-based understanding of general attitudes towards sustainability and the environment among today’s younger generations. In particular, research conducted by ARIES, as part of the national review of environmental education and its contribution to sustainability in Australia, noted that environmental education remains a low priority in the primary

and secondary school sectors (Tilbury, Coleman and Garlick 2005). Other research conducted by ARIES, under the same national review process, with regard to community education programs, notes that such programs do not tend to result in long-term behaviour change or capacity-building at the community level (Tilbury, Coleman and Garlick 2005). The *Gen Green Survey 2011* published by the Dusseldorp Skills Forum suggests that employers, government, the market and educators are contributing to the problem by failing to provide consistent guidance, direction and incentives to young people, and in particular, neglecting to encourage their engagement with sustainable practice.

Avery (2005) observed that Australia is not characterised by highly environmentally aware communities and cultures, while Harvey, Bosco and Emanuele (2010) and Crosbie and Houghton (2012) found that more older people self-identified as being “environmentally friendly” than younger people. This kind of evidence strongly challenges the assumption that “the green student” has a high level of representation in the Australian tertiary student body. While there are some indications that this may be changing in Australia (for example, Cutter-Mackenzie 2010), the most recent NSW State Government *Who Cares About the Environment?* Report (2010) indicates that the level of concern about environmental problems has decreased since 2006 (from 77% to 67%); and older people are more likely than younger people to display pro-environmental behaviour on a daily basis. Thomas and Benn (2009) note that student disinterest and resistance is a particular problem in business schools. These wider societal trends are likely to be reflected in the different dimensions (undergraduate/postgraduate, full-time/part-time, international/domestic and on-campus/distance) of the student bodies in the universities that were the focus of this research.

Another area of concern is the apparent failure of universities to deploy appropriate performance management systems that enable ongoing monitoring of sustainability programs and their implementation as part of day-to-day business. This includes tracking progress against stated goals and objectives, celebrating achievements, identifying barriers that are preventing the achievement of desired outcomes and determining appropriate rectification strategies. The literature on university sustainability programs does not appear to consider these issues in any great detail (for example, Adams 2013). However, translating equivalent practices from corporate case studies, such as those detailed by Avery and Bergsteiner (2010), Pratt and Pratt (2010) and Benn, Dunphy and Perrott (2011), indicates several features of these kinds of systems:

1. Agreed plans with goals, objectives, strategies for action, targets for performance, performance indicators and delivery timeframes;
2. Regular monitoring (for example, weekly, monthly or quarterly) by those directly responsible for program implementation;
3. Regular reporting to the executive (for example, monthly or quarterly) on achievement against stated goals and objectives;
4. Regular review of progress in order to determine whether adjustments are required to plans and strategies in order to achieve desired outcomes;
5. Integration of sustainability issues as part of the organisation's overall approach to risk management.

This situation overall is perplexing, as universities are not immune from the pressures of market competition, must also engineer a position for themselves whereby they attract and retain stakeholder loyalties, and demonstrate a return on the (public and increasingly private) investment made in them. This includes

students (consumers), but also employees, communities, industry, government, professional/accrediting associations, regulators and others. The benefits for universities of being sustainable extend to stronger competitive advantage in the marketplace in relation to student recruitment, funding grants, opportunities for research commercialisation, infrastructure partnerships and other important elements that contribute to reputation and, more prominently in recent years, national and international performance rankings.

Why universities lag so far behind other sectors remains unclear, however. Universities are organisations with billions of dollars of assets under management, along with hundreds of millions of dollars' worth of revenue. However, universities are highly autonomous, hierarchical and often "silo-oriented" organisational structures, characterised by staff cultures that are intolerant of institutional interference or restriction; they display rigid leadership and change management models; and there is a high degree of potential for institutionalised dysfunctionality when these are combined with their increasingly hybrid existence as a mix of not-for-profit and for-profit projects and practices (for example, Coaldrake and Stedman 1998; Blackmore and Sachs 2007; Scott, Coates and Anderson 2008). Further, the decision-making that drives the development and implementation of sustainability programs in universities tends to be complex, as universities are attempting to address more than potential gains in relation to financial savings and increased operational efficiency (for example, Fullan and Scott 2009). The decision-making affecting these programs is also informed by issues such as the institution's mission and values; perceptions of moral obligation to the student body, key stakeholders and to society at large; and the aspiration to be leaders in relation to sustainable education, research and practice. These types of

decisions need to be properly costed, evaluated, consulted upon and re-evaluated several times before final solutions are agreed and can proceed to implementation.

Universities in Australia are also statutory authorities enabled by state or federal legislation – they are subject to both state and federal funding and regulatory regimes within a context that does not delineate sustainability as a primary expectation of the higher education sector²². Rather, issues such as the ability to compete internationally, “quality”, “standards”, the “student experience”, and the balance between research, teaching and learning, philanthropy and community engagement tend to be the key political pressure points²³. This is in direct contrast to the situation in the United Kingdom, where sustainable practice in higher education is actively promoted and supported as a government priority via the Higher Education Funding Council for England; where funding mechanisms are in the process of being linked to how well universities are reducing their carbon emissions; and where many universities (such as the University of Edinburgh) are already implementing strategies to promote drastic cuts in energy consumption in particular, as well as deploying broader sustainability programs (for example,

²² This includes as part of the sector-wide reform agenda commenced by the Commonwealth Government in 2008, including *Review of Australian Higher Education (2008)*, *Transforming Australia's Higher Education System (2009)*, and *Powering Ideas: An Innovation Agenda for the 21st Century (2009)* (<http://www.deewr.gov.au> – accessed 12 August 2010)

²³ Universities in New South Wales are required to comply with a number of State and Federal legislative instruments, including the *Environmental Planning and Assessment Act 1979 (NSW)*, the *Protection of the Environment Operations Act 1997 (NSW)* and the *National Greenhouse and Energy Reporting Act 2007 (Clth)*. As part of its plans for transformation of the higher education sector, in 2009 the Federal Government made available \$250 million under the Education Investment Fund's “one off” Sustainability Round (www.deewr.gov.au/eif). However, this is in contrast to the United States, where sustainability is embedded into the *Higher Education Opportunity Act 2008* (incorporating the provisions of the *Higher Education Sustainability Act HR 4137*) (Association for the Advancement of Sustainability in Higher Education [AASHE] 2008). Also in the United Kingdom, the Higher Education Funding Council for England (HEFCE) monitors environmental sustainability initiatives across all universities in the United Kingdom through the annual Estate Management Statistics collection, utilises the People and Planet's *Green League* environmental sustainability rankings of UK universities as part of its policy formulation process with regard to higher education institutions, and administers the Revolving Green Fund, designed to reduce greenhouse emissions in higher education institutions (People and Planet 2008; HEFCE 2009a; www.hefce.ac.uk). Within Australia, sustainability criteria in the form of *Environmental Management Procurement Guidelines* are built into the NSW Government's procurement policy via the Gateway Review System, which also apply to Government statutory authorities (NSW Treasury 2009). However, this is not a mandatory requirement of universities' procurement practices despite the fact they are also statutory authorities under NSW legislation.

Association of Business Schools [ABS] 2009; Carrell 2009a, 2009b; Shepherd 2009; Tobin 2009; Vaughan 2009; HEFCE 2009b).

In contrast, a check conducted on the DEWHA *Living Sustainably* website in January 2013 reveals the plan appears to have been published without any apparent tracking or reporting mechanisms being put in place. *Living Sustainably* also appears to have been established with only vague references to “support”, “encourage” and “promote”; and a commitment that DEWHA and the Department of Education, Employment and Workplace Relations²⁴ would examine whether it was “feasible and appropriate” to provide incentives in the form of funding, grants, award schemes and practical support for universities in particular to implement the *Education for Sustainable Development Policy* of Universities Australia²⁵ – a document that dates from 2006.

In 2013, Universities Australia released its reform paper *A Smarter Australia: An Agenda for Australian Higher Education 2013-2016*²⁶. Sustainability is mentioned once in the 70-page document – in relation to international education. Universities Australia’s website also lists its “current issues of concern” on its policy and advocacy webpage – sustainable practice is not one of them²⁷.

This lack of progress by Australian universities in successfully managing the transition to sustainable practice is a serious matter, as it presents significant ongoing and future credibility concerns that universities will need to address. Business, community and not-for-profit/non-government organisations, the public

²⁴ <http://deewr.gov.au/>

²⁵ <http://www.universitiesaustralia.edu.au/page/media-centre/2006-media-releases/sustainable-development-high-on-universities-agenda/> [Accessed 5 January 2013]

²⁶ <http://www.smartestinvestment.com.au/campaign/agenda/> [Accessed 9 May 2013]

²⁷ <http://www.universitiesaustralia.edu.au/page/policy---advocacy/>

sector and professional and industry associations have long recognised the need to transition to a basis of sustainable practice, even if only so that they may operate in a more efficient manner in terms of resource consumption (for example, Werbach 2009). They also understand the need for properly qualified professionals – and interested and passionate citizens and communities – in succeeding in this regard. Thomas (2004), Thompson and Green (2005), Cusick (2008), NWF (2008) and Sibbel (2009) note that universities are training the future designers, planners, scientists, politicians and citizens who will be needed to envision, endorse and implement sustainable practices – yet sustainability is not embedded in curricula. Thompson and Green (2005) and Moore *et al.* (2005) observe that universities are highly resource intensive organisations – yet sustainability is not embedded in operations. Thomas (2004) and Bekessy, Samson and Clarkson (2007, p.302, 312) state that mainstream practices in Australian universities, as they currently stand, are “far from adequate”, given on-paper commitments by universities and their role in society in “presuming to shape minds, perceptions and values”. Fullan and Scott (2009) and Adams (2013) make similar observations. Fisher (2003, p.140) provides the most telling comment of all: universities “cannot teach about environmental values if they themselves are not authentic about embracing those values”.

However, as this literature review emphasises, other key factors related to change management, leadership and external factors (such as legislation, the changing demographic of the student body and various pressures from external groups), may also have a significant impact upon the ability of higher education institutions to manage sustainability programs. This research is, therefore, important in a time when higher education institutions worldwide continue to experience challenges in

attempting to comprehensively integrate sustainability into curricula and operations in particular. Australia is no exception.

A number of studies have been conducted examining the key factors that may affect the management of sustainability within the global (and more specifically, the Australian) higher education sectors (for example, Hunt and Auster 1990; Carpenter and Meehan 2002; Sammalisto and Arvidsson 2005; Sherren 2006; Bekessy, Samson and Clarkson 2007; Ferrer-Balas *et al.* 2008). Bekessy, Samson and Clarkson (2007) note that, specifically in relation to Australian universities, mainstream practices are rarely affected by small-scale pilot or “club” activities, established demonstrations and attempts to raise awareness. The broad factors identified from the literature to date as affecting sustainability initiatives in both Australian and overseas universities are grouped in Table 1.

Most studies conducted to date have:

1. Tended to rely on literature/database reviews and surveys only;
2. Deployed surveys that are typically small, web- or questionnaire-based and often with low response rates. Only one institution and/or only one person in the institution was surveyed – often the sustainability coordinator;
3. Tended to focus on one institution, one discipline or program, or one element of the institution (for example, curriculum or professional development programs); or
4. Not examined any potential for interactions between different factors.

Other studies have attempted more in-depth work. Bekessy, Clarkson and Samson (2007) conducted 15 semi-structured interviews with staff at the Royal Melbourne

Institute of Technology (RMIT). However, interview participants were asked to identify the top three barriers to mainstreaming sustainability at RMIT, an approach that did not take into account the nature of the complexity of attempting to manage sustainability programs and which only focused on one institution. Yet other studies have been conducted across different legislative, regulatory and funding jurisdictions, without appearing to have taken these jurisdictional differences into account (for example, Carpenter and Meehan 2002; Ferrer-Balas *et al.* 2008).

The research in Australia to date has largely been focused on examining “what is wrong”, but not “why it is not working”, particularly from the perspective of key factors affecting the management of sustainability programs. Australian research is not alone in this tendency, as reflected in the sources informing Table 1. Detailed, in-depth qualitative research exploring the actual experiences of those involved in sustainability programs in Australian universities (the focus of this study) has not previously been undertaken.

Studies conducted to date in Australia have also been highly internalised, tending to examine those individual, internal organisational factors that may impact on sustainability programs, such as leadership, communication and the nature of organisational change management practices. However, little to no attention has been given to external factors such as changes in legislative requirements, changes in the nature of the student body, or why staff may exhibit negative attitudes towards sustainability beyond that of their identities as either “academic” or “administrative” staff.

Table 1: Broad factors identified in the literature as affecting success in achieving sustainability initiatives in universities

Factor	Elements
Leadership and management	<ul style="list-style-type: none"> • Style • Lack of accountability/visibility of commitments • Apathy/short-termism
Sustainability – concept	<ul style="list-style-type: none"> • Not prioritised or valued in the organisation/not advocated by leaders • Ambiguous definitions
Sustainability – projects	<ul style="list-style-type: none"> • Type (pilot, isolated, short-lived, <i>ad hoc</i>) • Long lead times • Inadequate resourcing (people and dollars) • Failure to properly define problem • Failure to apply/implement findings of reports and audits • Failure to set performance objectives and/or to establish appropriate monitoring and reporting lines and systems
Organisational structure and culture	<ul style="list-style-type: none"> • Hierarchical/autonomous units – “silos” • Traditional practices • Resistance from academic staff to changes in curriculum/lack of interdisciplinarity • Limited authority/restrictions on decision-making processes
Infrastructure	<ul style="list-style-type: none"> • Ageing in all universities – extent of capacity/funding to retrofit and/or undertake new building work
Curriculum	<ul style="list-style-type: none"> • Out-of-date content with a focus on elective offerings rather than core competency • Lack of integration and contextualisation across disciplines • Resistance to change from academic staff/anachronistic academic environment • Lack of student interest

Sources: Hunt and Auster (1990); Carpenter and Meehan (2002); Fisher (2003); Thomas (2004); Sammalisto and Arvidsson (2005); Sherren (2006); Bekessy, Samson and Clarkson (2007); Fullan and Scott (2009); Thomas and Benn (2009); Avery and Bergsteiner (2010); Pratt and Pratt (2010); Rusinko (2010); Shephard (2010); Alcaraz, Marcinkowska and Thriuvattal (2011); Barth and Timm (2011); Barth, Michelsen and Sanusi (2011); Benn, Dunphy and Perrott (2011); Butt, More and Avery (2011b); Clark *et al.* (2011a); Hegarty *et al.* (2011); Lemons (2011); Luck (2011); Mather *et al.* (2011); Richter and Schumacher (2011); Stark (2011); Tilbury and Ryan (2011); Wiek, Withycombe and Redman (2011); Williams (2011); Feng (2012); Hammond and Heron (2012); Leeuw *et al.* (2012); Lovins (2012); Yarime *et al.* (2012); Adams (2013).

There has also been no effort made to examine interdependencies between internal factors (particularly change management and leadership issues and practices) and how internal and external factors combine and interact to affect the management of sustainability initiatives. Furthermore, no studies have been conducted within the Australian higher education context examining the potential effect of traditional leadership styles, versus more strategic leadership models, on the management of sustainability programs.

These are interesting omissions in the research landscape, given the fact that transitioning to a basis of sustainable practice is a significant change management and leadership challenge. The research conducted to date has only considered a part of the sustainability picture in Australian universities.

This review will now, therefore, examine the two other literature streams of interest to this research – those of change management and leadership – and also the impact of the leadership-change management disconnect.

2.3 Stream 2: Change management

The field of change management has attracted the interest of researchers for more than 50 years. It now attracts an even more intense focus in relation to sustainability programs, given the change management challenge such initiatives can pose to organisations (for example, Griffiths, Benn and Dunphy 2005).

It is widely acknowledged in the literature that, irrespective of how genuine an attempt is made at change, there is no real guarantee of success (Kotter 1990; By 2005; Higgs and Rowland 2005; Armenakis *et al.* 2007; Ferdig 2007; Lines 2007;

Walker, Armenakis and Bernerth 2007). By (2005), Higgs and Rowland (2005) and Allen *et al.* (2007) had noted the widely reported failure rate of between 40% and 70% of all change management initiatives that are commenced. Ferdig (2007), Bolden (2011) and Thorpe, Gold and Lawler (2011) observed that human interactive processes are fluid, dynamic, paradoxical and interdependent, which is not appreciated by traditional change management and leadership practitioners. Rigid, traditional change management and leadership practice can impede the management of initiatives that require fluid, dynamic and interdependent thinking and approaches – such as sustainability (for example, Ferdig 2007; Bolden 2011; Thorpe, Gold and Lawler 2011).

2.3.1 *Factors impacting on change management initiatives*

A range of factors that has been cited as being central to the success or failure of change management initiatives is listed below:

1. Organisation industry, age, culture and values (for example, Bennett 1980; Deal and Kennedy 1982; Ostrom 1990; Senge 1990; Bass and Avolio 1993; Ogbonna 1993; Post and Altman 1994; Kotter 1996; Morgan 1997; Stone 1997; Brown and Woodland 1999; Deckop, Mangel and Circa 1999; McCune 1999; Cable *et al.* 2000; Schulz 2001; Dunphy, Griffiths and Benn 2003; Parry and Proctor-Thompson 2003; Hoogervorst, van der Flier and Koopman 2004; Higgins and Mcallaster 2004; Taylor 2004; Trompenaars and Prud'Homme 2004; Avery 2005; Hopkins, Hopkins and Malette 2005; Kell and Carrott 2005; Mankins and Steele 2005; Nielson, Pasternack and Van Nuys 2005; Rothacher 2005; Van Lee, Fabish and McGaw 2005; Werbach 2009);

2. The type of change (for example, whether a major project or continuous incremental adjustment – Post and Altman 1994; By 2005; Allen *et al.* 2007; Armenakis *et al.* 2007; Dibella 2007; Walker, Armenakis and Bernerth 2007);
3. Process factors (such as communication strategies and provision of the rationale for the change – Post and Altman 1994; Allen *et al.* 2007; Dibella 2007; Walker, Armenakis and Bernerth 2007);
4. Contextual factors (pre-existing forces in an organisation's external environment such as market position, technical information, competitive advantage, regulatory and legislative change, changing consumer perceptions/buyer behaviour and operating costs – Post and Altman 1994; Dibella 2007; Walker, Armenakis and Bernerth 2007);
5. How the management of change initiatives, and the behaviour of those who are managing change, is experienced by those who are affected by the change (for example, Kets de Vries and Balazs 1998; Thomas 2004; Higgs and Rowland 2005; Benn, Dunphy and Griffiths 2006; Allen *et al.* 2007; Armenakis *et al.* 2007; Dibella 2007; Ferdig 2007; Lines 2007; Sinclair 2007; Walker, Armenakis and Bernerth 2007; Fullan and Scott 2009);
6. Political elements (the relative degree of power and influence exerted by both those managing change and those affected by it), can influence the success of change management initiatives – Fiedler 1974; Kanter 1979; Comstock 1982; Fiedler and Garcia 1987; Foucault 1995; Giddens 1995; Levy [trans. 1997]; Bolman and Deal 2003; Miller, Butler and Consentino 2004; Jenks 2005; Higgs and Rowland 2005; Nielsen, Pasternack and Van Nuys 2005; Lines 2007; Fullan and Scott 2009);

7. Workforce cultural and demographic diversity (for example, ageing populations; critical skills shortages in a number of professions, particularly education, the sciences and health; migration; increasing participation of women in the workforce; changing patterns in skills, educational profiles and career paths; and associated population shifts are having a profound effect on the workforce profiles of countries all over the world – as are the multitude of cultural, political and religious values and practices that accompany such change) (Coaldrake and Stedman 1998; Fotakis and Coomans 2003; Javidan, House and Dorfman 2004; OECD Economics Department 2004; Trompenaars and Prud'Homme 2004; Banks 2005; Cotis 2005; Australian Government Productivity Commission 2006; Blackmore and Sachs 2007; Bradley *et al.* 2008; Scott, Coates and Anderson 2008; Fullan and Scott 2009).

That universities, like all other organisations, experience the effects of these factors is unquestioned. For example, sustainability initiatives may represent both major and incremental change – a major construction project that fundamentally changes how staff and students interact with the university's physical and virtual environments; the introduction of a new piece of regulatory legislation; or the embedding of sustainability concepts into a discipline's curricula may translate into fundamental change. However, incremental change may be characterised by how staff and students change their energy use patterns over time (for example, educating people and encouraging behaviour in relation to ensuring computers, printers and lights are turned off at the end of the working day and before leaving for weekends). However, Australian universities tend to exhibit a trend of attempting to implement sustainability initiatives that represent both major *and*

incremental change through “pilot” or small-scale projects. Such a risk-averse approach to change has repeatedly been demonstrated as being unsuited to achieving the mainstreaming of sustainability across institutions (for example, Bekessy, Clarkson and Samson 2007).

Universities have also been strongly criticised for their continued failure to embed sustainability values into their wider organisational values (for example, Fisher 2003; Thomas 2004). A further criticism has been that universities are not “market aware” in the same way as are the for-profit and not-for-profit sectors. Universities have a reputation for being inward-looking and, as a result, systematically ignorant in relation to matters they may perceive to be outside their direct purview (for example, Coaldrake and Stedman 1998; Velazquez, Munguia and Sanchez 2005; Scott, Coates and Anderson 2008; Fullan and Scott 2009). This is reflected to some degree in the way in which studies that have been conducted to date on success in managing sustainability initiatives have tended to be internally-focused (for example, Carpenter and Meehan 2002).

Further, universities in Australia are widely recognised as being consumers of extraordinary amounts of resources (and producers of consequent amounts of waste), inefficient in their operations and highly resistant to change (what Fullan and Scott [2009] refer to as being “change averse”), due to the nature of their hierarchical, traditional, autonomous (in some areas, outdated) organisational structures, systems and practices; and “silo”-oriented staffing profiles (for example, Coaldrake and Stedman 1998; Fullan and Scott 2009). These characteristics of

universities²⁸ in and of themselves present a serious impediment to progress in attempts to mainstream sustainability.

Another feature of universities is that those responsible for managing change, and the university leadership, are not always embodied in the same person/people, business unit/faculty or even governance structure (for example, working groups and committees). This may mean that the impact of process factors, such as communication and the formulation of a business case for change, is inadvertently diluted, filtered or, in some way, altered or obstructed by other actors at “key process points”, particularly if those in positions of leadership are also, initially at least, change targets. This can exacerbate situations where managers are attempting to implement sustainability initiatives without any real knowledge or understanding of what it is they are aiming to achieve. This, in turn, may be exacerbated by the lack of sustainability education in professional development programs designed for managerial employees. It could be argued that sustainability is, at the very least, as important as other key (and generally mandatory) development areas for managers in the university setting, including work health and safety, trade practices, anti-discrimination, copyright and workplace bullying and harassment – yet sustainability education is not generally provided for in induction/orientation or professional development programs for new and established managers.

Criticisms of both ignorance and failure to incorporate sustainability in a widespread manner into institutional systems (for example, Butt, More and Avery 2012), also highlight another issue that may be significantly impeding the move

²⁸ In Australia, statutory authorities under state or federal legislation, funded by a mix of public and private funding, but also complex hybrids of public and private sector practices paradoxically characterised by highly bureaucratic and silo-oriented approaches to their operations and culture. Coaldrake and Stedman's (1998) *On the Brink*, although written over 20 years ago, somewhat alarmingly (but perhaps not surprisingly) remains a largely relevant depiction of the Australian higher education landscape.

towards a more sustainable basis of operation in universities. This is the simple lack of university graduates and others educated through different pathways, from different cultural backgrounds, who understand the concept of sustainability, and who might then become part of the workforce profile of universities.

Therefore, while there are many change management factors that certainly may impact on universities' efforts in relation to the management of their sustainability programs, it is possible that it is not just the *type* of change being implemented, but also the *model* used to physically implement the change – as well as the *philosophy* of change lying behind this – that could indeed have a greater bearing on the achievement of sustainability goals and objectives. This factor – and its interaction with university models and philosophies of leadership – is a key focus of the present research. To this end, this review moves to an examination of the literature on leadership.

2.4 Stream 3: Leadership

The field of leadership has attracted the interest of researchers for even longer than those engaged in change management research – over 100 years of research has informed the leadership debate and it remains a topical issue. Similarly, leadership in relation to sustainable practice, and the rise of new leadership paradigms, has led to new fields of research endeavour (for example, Ferdig 2007; Avery and Bergsteiner 2010; Thorpe, Gold and Lawler 2011).

2.4.1 Leadership theory

One of the key features of leadership theory is that it continues to evolve. The early days of trait-based theory moved to research into leadership style (for example, McGregor's 1960 Theory X/Theory Y typology). The next step was the development of contingency-based theories, which examined the effect of "situational favourability" for effective leadership, including House's (1971) path-goal theory, and Graen and Schiemann's (1978) leader-member exchange theory. This was followed by the advancement of leadership as political influence (power-related, which appears to be found more often as a component of other theories, rather than as a distinct body of theory in its own right), and strategic influence (transformational leadership, upon which prodigious levels of research have been conducted, perhaps most notably by Bernard M. Bass and colleagues (for example, Bass [1998])). However, problems with the potentially evangelical and narcissistic aspects of transformational leadership, and more general problems with the traditionalist approach to leadership with its focus on hierarchy and formality, have since led to the development of other theories of leadership, that focus on sustainability and sustainable practice (for example, Kets de Vries and Miller 1984, 1996; Kets de Vries 1985, 1999a, 1999b; Thorpe, Gold and Lawler 2011).

2.4.1.1 Traditional leadership

In general, the common thread that runs through the development of traditionalist leadership theory is the conceptualisation of the leader as the all-powerful "hero" or "chief", often viewed as operating above, in front of, or at a distinct remove from, the organisation and usually surveilling it (for example, Bentham 1969; Foucault 1995; Sinclair 2007; Thorpe, Gold and Lawler 2011). Avery (2005) notes that this view of top-down leadership, as embodied in the form of the Anglo-Saxon Chief

Executive Officer, with its emphasis on centralised power and hierarchical structures, may not even be sustainable. The careers of such leaders in the modern world tend to be short and well-paid, with relatively young incumbents whose tenure is dependent upon continued exceptional performance (Avery 2005). Such a view of leadership perpetuates the view that the “people at the top” are in total control of the organisation and know everything that is happening within it (Weymes 2001; Avery 2005; Hamel and Prahalad 2005; Ferdig 2007; Bolden 2011; Thorpe, Gold and Lawler 2011).

This type of leader is isolated, worshipped (or held up as a scapegoat, depending on the fortunes of the day) and generally viewed as a superior being who has all the required answers and solutions at its disposal. However, this type of leader has come to be regarded as a highly negative construct within the leadership literature (for example, Bolden 2011; Thorpe, Gold and Lawler 2011). As a result, researchers have long questioned whether formal, hierarchically-oriented theories of leadership based on direct interpersonal relations, and operating independently of other organisational elements, are the most realistic ways of conceptualising leadership. Unfortunately, these “heroic” theories are also those that tend to predominate in the university environment (for example, Coaldrake and Stedman 1998; Blackmore and Sachs 2007; Scott, Coates and Anderson 2008; Fullan and Scott 2009).

The major traditional theories of leadership may be roughly categorised as:

- Trait-based: evolved in the early 20th century from the “great man” theories of the 19th century, supports the view that leaders are born to lead and assumes that it is not necessary (even if possible) to develop leaders through

training (Stogdill 1974; Kirkpatrick and Locke 1991; House and Aditya 1997);

- Style-based: style-based theories of leadership tend to present leadership as a dichotomy – that is, whether leaders are generally more, or less, concerned about employees' welfare and well-being while in pursuit of desired organisational outcomes. Perhaps the best-known of these theories is Douglas McGregor's (1960) motivation-based dichotomy, "Theory X" and "Theory Y", which is reflected in Maslow's (1970) theory of motivation. It is often stereotyped as "bad" versus "good" leadership (for example, Bobic and Davis 2003; Spillane and Martin 2005). The Leadership Grid is another well-known theory of style-based leadership (for example, Korman 1966; Larson, Hunt and Osborn 1976; Bryman 1986; Blake and Mouton 1978; Blake and McCanse 1991);
- Contingency theory: contingency approaches to leadership differ from style-based approaches in that they take the situation itself (including tasks and "subordinates") into account and identify the best leadership style for any given situation. The main contingency models are Fiedler's contingency model; path-goal theory; vertical dyad linkage (also referred to as leader-member exchange theory); and the Hersey-Blanchard model (later to diverge into the Hersey-Situational Leadership Model, and the Situational Leadership Model II developed by Blanchard and colleagues) (Fiedler 1967; Fiedler 1971; House 1971; Fiedler 1974; House and Mitchell 1974; Graen and Schiemann 1978; Hersey 1984; Blanchard, Zigarmi and Zigarmi 1985; Fiedler and Garcia 1987; Silverthorne 2001; Avery and Ryan 2002). Support for contingency theories of leadership is mixed (for example, Aktouf 1996; House and Aditya 1997; Silverthorne 2000, 2001; Avery and

Ryan 2002; Davis and Gardner 2004; Miller, Butler and Consentino 2004; Reber, Auer-Rizzi and Maly 2004; Kjeldal, Rindfleish and Sherida 2005);

- Transactional leadership: transactional leadership centres on the exercise of influence by the leader over “followers” to achieve certain ends, with some degree of consultation and negotiation undertaken by the leader (Avery 2004). Transactional leadership tends to be characterised by leaders who closely monitor performance activity, with a focus on short-term and/or operational objectives, which can cause tension between leaders and followers (Avery 2004). Creating a vision for the future and managing the implementation of change are, therefore, not characteristics of the transactional approach to leadership;
- Transformational leadership: transformational leadership involves a focus on change and the importance of developing a sense of direction and commitment (Kotter 1990; Bass and Avolio 1993; Podsakoff, MacKenzie and Bommer 1996; House and Aditya 1997; Bass 1998; MacKenzie, Podsakoff and Rich 2001; Tucker and Russell 2004). Transformational leadership is closely related at its roots to the image of the great political leaders and heroic leadership, and thus focuses on visionary leadership – creating a vision, communicating it and finding the symbols and experiences to support it (Kotter 1990; Bass 1998). Transformational leadership is often regarded as having its impact in ongoing organisational life, regardless of situational circumstances (for example, Bass and Hater 1988; Kotter 1990; Bass and Avolio 1993; Bass 1998; Eisenbach, Watson and Pillai 1999; Duckett and Macfarlane 2003; Parry and Proctor-Thompson 2003; Eid *et al.* 2004; Pillai and Williams 2004; Shahin and Wright 2004; Tucker and Russell 2004; Crawford 2005; Harland *et al.*

2005; Lee 2005; Purvanova, Bono and Dziewieczynski 2006). It is often contrasted with transactional leadership, in particular. However, it is also criticised for its evangelical aspects and the risk that transformational leaders, falling victim to a form of immortalisation, can easily descend into narcissism, exhibiting manipulative and deceitful (and sometimes criminal) behaviour – a pattern that has been repeated over human history in many different forms (for example, Servan 1870, cited in Foucault 1995; Cassirer 1944, 1945; Nietzsche [trans. 1967]; Barthes [trans. 1972]; Johnson 1977; Levi-Strauss 1978; Bennett 1980; Halberstam 1986; Latour 1987; Chomsky 1988; Herman and Chomsky 1988; Diamond 1990; Kotter 1990; Saul 1992; Symington 1993; Bowker 1994; McLuhan 1994; Sankowsky 1995; Boyce 1996; Cummings and Brocklesby 1997; Hammer 1997; Bass 1998; Cooper 1998; Beverley and Jacobson 1999; Klein 2000; Applebaum 2003; Bell 2003; Gould 2003; Machiavelli [trans. 2003]; Tucker and Russell 2004; Armstrong 2005; Litowitz 2005; Saul 2006; Chenoweth 2006; Coskun 2007).

House and Aditya (1997) assert that there is little to no evidence that so-called transformational leadership has any transformative effect at the levels of the individual, team/work unit or organisation over the long-term. Bolden (2011) and Thorpe, Gold and Lawler (2011) note similar studies. Yet, many other studies and meta-analyses suggest that transformational leadership leads to high performance (Wang *et al.* 2011).

While there are other sub-branches of these main categories, and new developments in traditional leadership theory continue to emerge, these appear to be largely

incremental and variants, or more detailed explorations, of other established leadership theories and concepts. For example, Rooke and Torbert (2005) explore a combination of aspects of post-heroic leadership, transformational leadership, the concept of emotional intelligence and contingency theory in their seven categories of “action logic”. A leader’s action logic differentiates them according to how they interpret their surroundings and react when their power or safety are challenged, and leaders may transform from one action logic to another as they embark on a developmental voyage, progressively becoming more self-aware (Rooke and Torbert 2005).

There are also other problems with traditional leadership theories that have resulted in their increasing unpopularity:

1. Traditional theories of leadership have tended to be repetitive, reactive and circular in nature. Transformational leadership theory, for example, embodies the concept of the “hero”, which links back to the early “great man” theories of leadership of the 19th century, the precursors of trait-based theory. Such circularity has resulted in multiple definitions and meanings of leadership which, in turn, have resulted in a fragmented body of theory that continues to plague leadership research over 100 years after it first emerged formally as an area of research interest in the military;
2. Stogdill (1974) noted that traditionalist leadership as a construct is distinctly American, and North American at that, with a strong bias towards the Western, Anglo-Saxon, white male-dominated and oriented organisation. The evidence of the past 30 years would suggest that this construct remains entrenched in leadership practice (for example, House and Aditya 1997; Weymes 2001; Chenoweth 2006; Bolden 2011; Thorpe, Gold and Lawler

2011);

3. The often empirical nature of research into traditional leadership has resulted in the transformation of speculation into a science of interpersonal relations, and each theory only deals with a small subset of the leadership problem (Stogdill 1974; House and Aditya 1997; Bolden 2011; Thorpe, Gold and Lawler 2011). Hamel and Prahalad (2005) are particularly critical of the tendency to reduce Western thought to various rules and matrices; that advances over the past 20 years have increasingly taken the form of typologies, heuristics and “laundry lists”, often with dubious empirical bases; and that evaluation of performance occurs on the basis of numbers alone because no other basis for dialogue exists. This leads to a complete lack of understanding of the nuances of the business being undertaken, and the consequent danger that terms such as “participation” become little more than buzzwords (Hamel and Prahalad 2005) – particularly in Anglo-Saxon management contexts;
4. A particular problem in the development of the traditional theories of leadership is what Smither (1998) refers to as the fascination by practitioners and researchers with leadership as “management fashion” – the transitory belief that one particular leadership technique is superior to all others. During the period when a fashion is popular, people rush to adopt the practice; but then fashions change when the practice no longer meets the needs of the organisation and when the practice is no longer highly regarded (Smither 1998). This can translate to highly wasteful expenditure in areas such as professional development and coaching on “fads”, often subject to manic rates of uptake, which are ultimately rejected when the extent and/or consequences of the problems that can result are finally realised.

Practitioners may also become beholden to the “indicator mentality”, whereby results that are not defined solely in terms of percentages, ratios, benchmarks and scores on approved scales are regarded as irrelevant and key performance indicators become the only form of dialogue between organisational members.

These continuing problems eventually drove many researchers to look at alternative pathways by which to conceptualise the idea of “leadership”.

2.4.1.2 Strategic leadership

Criticism of the so-called traditional, or “heroic”, theories of leadership has led to the development of more strategic leadership concepts (variously referred to as sustainable, “turnaround”, organic, complex, integrated and distributed) such as those posited by Stogdill (1974), Bass (1998), Elkington (2001), Avery (2004, 2005), Hamel and Prahalad (2005), Sinclair (2007), Fullan and Scott (2009) and Avery and Bergsteiner (2010, 2011), among others. These theories recognise that leadership is but one of many elements working in conjunction with each other within the organisational setting.

These more modern concepts of leadership – referred to through the rest of this section as “sustainable” – also tend to recognise the existence of leadership at all organisational levels (for example, Bass 1998; Elkington 2001; Avery 2005; Hamel and Prahalad 2005; Pascale and Sternin 2005; Sinclair 2007; Fullan and Scott 2009; Avery and Bergsteiner 2010, 2011; Bolden 2011; Thorpe, Gold and Lawler 2011). Sustainable leadership avoids the rigidity and hierarchical nature of traditional leadership theory, and emphasises stakeholders, long-term perspectives,

environmental and social responsibility, teams and people – the Chief Executive Officer (or equivalent) is the “top team speaker”, rather than the “hero” (Elkington 2001; Avery 2005; Ferdig 2007; Fullan and Scott 2009; Avery and Bergsteiner 2010, 2011).

Within the sustainable leadership construct, leaders are those who deploy framing behaviours and who may not always occupy formal positions of leadership (Bruner 1960; Murray 1960; Eliade [trans. 1960 and 1975]; Bennett 1980; Bowles 1989; Post and Altman 1994; House and Aditya 1997; Avery 2004; Armstrong 2005; Higgs and Rowland 2005; Litowitz 2005; Ferdig 2007; Fullan and Scott 2009). Barthes (trans. 1972), Giddens (1996) and Wheatley (2001) note that human networks always organise around shared meaning, while Smircich and Morgan (1982) describe the ability of being able to manage meaning, where leadership is a process of creating reality using available power bases in a constructive manner. In the sustainable leadership environment, leadership emerges in a natural and spontaneous manner, attributed to those who frame experience in ways that provide a viable basis for action through the creation of shared meaning (Smircich and Morgan 1982; Bass and Avolio 1993; Bass and Hater 1988; Kets de Vries 1989, 2006; Wheatley 2001; Khurana 2002; Bolden 2011; Thorpe, Gold and Lawler 2011). The key challenge is to manage meaning and create opportunities in such a way that individuals are able to come together, and explore, learn, devise courses of action and orient themselves to the achievement of desirable ends (Eliade [trans. 1975]; Smircich and Morgan 1982; Bowles 1989; Wheatley 2001; Segal 2003; Ferdig 2007; Fullan and Scott 2009; Bolden 2011; Thorpe, Gold and Lawler 2011). In this way, the leader becomes the change agent, integrator, facilitator, coach and teacher, while simultaneously recognising that the eventual outcome/s are the

product of teams and people (House and Aditya 1997; Wheatley 2001; Avery 2004, 2005; Bolden 2011; Thorpe, Gold and Lawler 2011). Sustainable leadership also recognises that certainty/uncertainty, predictability/unpredictability and control/lack of control are inherent in organisational life, in contrast to the more traditional view of complete order, rationality and linearity (House and Aditya 1997; Wheatley 2001; Kets de Vries 2004; Ferdig 2007; Fullan and Scott 2009; Bolden 2011; Thorpe, Gold and Lawler 2011).

However, Wheatley (2001), Avery (2005), Ferdig (2007) and Fullan and Scott (2009) emphasise that this acceptance of uncertainty, unpredictability and lack of control as part of theories of sustainable leadership does not mean that activities associated with traditional leadership – including strategic thinking, operational and business planning, corporate governance and due diligence, staff development and training, risk management, project management, communication, provision of appropriate oversight by governing bodies, involvement of those in senior level leadership and management positions, accountability/responsibility structures and performance management systems – are redundant. On the contrary, sustainable leadership reaffirms the importance of these abilities, while radically expanding beyond the current boundaries of accepted views of leadership (Wheatley 2001; Ferdig 2007; Fullan and Scott 2009; Bolden 2011; Thorpe, Gold and Lawler 2011). Ferdig (2007) notes that this expansion enlarges the leadership base to include everyday leaders in all walks of life, who take up power and engage in actions with others to make a sustainable difference in organisations and communities. This is what Fullan and Scott (2009) refer to as having a high level of capability for change.

Contemporary theories of sustainable leadership (such as the Learning Flywheel developed by Elkington [2001]; the Sustainable Leadership Grid developed by Avery [2005], later to evolve as the Sustainable Leadership Pyramid in Avery and Bergsteiner [2010]; and also the idea of Turnaround Leadership developed by Fullan and Scott [2009]), are, therefore, capable of restoring the leadership-change management-organisational culture disconnect that has plagued the broad field of organisational theory for many years. This may be of critical importance in examining the management of sustainability programs in Australian universities – themselves highly hierarchically-oriented organisations, exhibiting traditional (and generally ineffective) models of leadership and change management (for example Blackmore and Sachs 2007; Scott, Coates and Anderson 2008; Fullan and Scott 2009). Hence, the impact of different leadership models – and their interaction with change management practice – in relation to the management of sustainability initiatives, may be an important influencing factor. This is especially so, given the evidence suggesting that small-scale action by interest groups, while valuable, is not sufficient on its own to lead the adoption of sustainability in the mainstream business of universities (Bekessy, Clarkson and Samson 2007).

2.5 The disconnect between change management and leadership

Leadership and change management are deeply intertwined and mutually reinforcing. McGregor (1960), Senge (1990), Bass and Avolio (1993), Kotter (1996), Parnell and Hatem (1999), Kell and Carrott (2005), Mankins and Steele (2005) and Fullan and Scott (2009) all note the futility of attempting to transform organisations if change management, leadership and culture are not aligned.

The literature is replete with examples of what happens when these links are broken, and research indicates that it is the more traditional, isolationist styles of leadership that tend to be associated with dysfunctional change management practices (for example, Stogdill 1974, House and Aditya 1997; Weymes 2001; Fullan and Scott 2009). Leaders become isolated and narcissistic, and organisational culture tends to become highly destructive. Change management models veer towards confrontational, industrial-relations type practices and away from more socialised, consultative approaches. Companies where these types of problems develop tend to accumulate and institutionalise dysfunctions, resistance to change is high and cynicism is widespread (Kets de Vries and Miller 1994, 1986; Kotter 1996; Nielson, Pasternack and Van Nuys 2005). Such organisations, termed “passive-aggressive” by Nielson, Pasternack and Van Nuys (2005), tend to develop problems as the company grows through a series of well-intended but badly implemented organisational changes, layered one upon another, usually exacerbated by unclear scope of authority, misleading goals and agreement without cooperation (Kotter 1996; Nielson, Pasternack and Van Nuys 2005). Inefficiency, confusion, anger and uncertainty set in; people are unable to perceive and identify serious threats; and often, the end result is irreversible damage (usually reputational and financial – for example Fullan and Scott [2009]).

Circumstances such as these would be particularly damaging in relation to sustainability programs. Any disconnect between change management and leadership practice in the universities participating in this research is also, therefore, of interest.

The next section summarises the research questions for this study that have emerged from the literature review.

2.6 Research problem, aims, objectives and questions

Despite 20 years of effort in Australia, sustainability has not been successfully embedded in a widespread manner within the higher education sector. This applies to efforts towards revision of curriculum content, research, advocacy, community services and changes in operations. If universities are not able to address these issues systematically over the coming years, they run the very real risk of being dismissed as hypocrites by the private and the public sectors, as well as other stakeholders; and as failures in not producing graduates who are able to work effectively within the sustainability context.

Table 1 summarised the broad factors that have been found to affect the management of sustainability programs in universities in the global context. This chapter has discussed literature in the sustainability, change management and leadership streams to identify key factors that may be affecting the management of sustainability programs in the Australian context. These include external factors that have not previously been considered, and specific internal factors that have been crystallised from the broad findings of previous research. Both external and internal factors, and propositions as to how they might be influencing the management of sustainability programs, are presented in Table 2.

Table 2: Key internal/external factors identified in the literature that may affect the management of university sustainability programs in Australia

Factor	Possible Result
External	
Environmental legislation and regulatory mechanisms	<ul style="list-style-type: none"> Universities are unclear as to which legislative instruments they must comply with at both State and Federal levels Universities are under-resourced to deal with what is regarded as “the compliance burden”
State and Federal government political priorities	<ul style="list-style-type: none"> Universities do not prioritise sustainability because it is not a government priority and there are no real incentives (e.g., funding for research and teaching, capital development) to implement and “mainstream” sustainability
International ranking systems	<ul style="list-style-type: none"> Universities do not prioritise sustainability because it is not an assessment component of international ranking systems such as the Shanghai Jiao Tong or the Times Higher Education rankings – i.e. it is not an indicator of reputational value
The student body	<ul style="list-style-type: none"> Universities do not sufficiently understand student attitudes towards sustainability
Internal	
Organisational strategy, values and planning processes	<ul style="list-style-type: none"> Sustainability is not embedded at a high level in institutional visions, missions, strategic plans and value statements. This creates the impression that sustainability is not a priority Sustainability is embedded at the strategic level but is not “visible” in the operational planning process and/or there are no targets or key performance indicators against which to measure progress
The nature of universities themselves	<ul style="list-style-type: none"> Universities are hierarchical, bureaucratic, silo-oriented organisations living a hybrid existence between for-profit and not-for-profit expectations and practices. This “identity crisis” may be impacting upon the management of sustainability programs
The nature of sustainability programs/initiatives themselves	<ul style="list-style-type: none"> Sustainability programs conflict with, rather than complement, strategic and operational priorities Sustainability programs are variously poorly designed, patchy in distribution, not relevant to the whole organisation and/or are not staffed or funded properly Failure to benchmark against best practice and/or establish performance objectives The “rhetoric” of the program is not translating to the “reality” of employee life Review and reporting systems are non-existent or inadequate to track actual progress or regression

Table 2 continued: Key internal/external factors identified in the literature that may affect the management of university sustainability programs in Australia

Factor	Possible Result
Change management practices	<ul style="list-style-type: none"> • The change management model and/or process used to drive sustainability programs are inappropriate and/or not linked with leadership practice • There is a lack of high-level support for change management in relation to sustainability • Not all employees are involved in the change management process • Failure to recognise that change agents and leaders may not be the same people – that leaders may, initially at least, be change targets • Failure to understand the roles of, and interactions between, individuals in the change management “cast of actors”
Leadership practices	<ul style="list-style-type: none"> • Success or failure in managing sustainability programs is partly dependent upon leadership style – programs are more likely to be successful under more organic styles of leadership, where framing behaviour and empowerment of followers, rather than directive behaviour, is deployed • Leadership practice is not linked with change management practice
Organisational power structures	<ul style="list-style-type: none"> • Failure to understand where authority versus influence lies over sustainability programs
Organisational workforce	<ul style="list-style-type: none"> • Employee attitudes to sustainability are negative/reactive • Sustainability is not a part of professional development and training programs and associated goals and performance indicators – particularly in the development of leaders and managers, as opposed to simply promoting academic staff to senior positions • Universities are not aware of, or are failing to take into account, differences in demographic elements of the workforce, such as cultural background and their influence upon employee understanding of, and attitudes towards, sustainability • Universities are not aware of, or are failing to take into account, the impact of the nature of employment on employee interest in sustainability – particularly via increasing rates of casual and contract employment
Interaction/interdependency between external and internal factors	<ul style="list-style-type: none"> • External and internal factors are likely to be interacting at different levels concurrently, and, therefore, impacting upon the management of sustainability programs

2.6.1 *Research aims and objectives*

The aims and objectives of this research are:

1. To explore the key internal and external factors that may be affecting the management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas, through the experiences of those who are responsible for these programs;
2. To examine whether successful management of sustainability programs embodies an approach which challenges established, traditional theories of change management and leadership;
3. To identify avenues for further exploration and investigation that may yield information and discoveries of significance in the higher education sector in relation to managing sustainability programs.

2.6.2 *Primary research questions*

Given the areas highlighted in this literature review and summarised in Table 2, and the research aims and objectives noted under section 2.6.1 above, the primary research questions for this study are:

1. What are the key factors affecting the introduction and management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas?
2. Does the successful management of sustainability programs embody an approach which conforms with or challenges hierarchical theories of change management and leadership?

2.6.3 *Secondary research questions and sub-questions*

Previous studies have tended to focus broadly on the “what” of the factors affecting the management of sustainability programs in universities in Australia, without going into more depth on the “why” of the situation. Specifically, what are the key drivers (both internal and external) affecting success and failure in managing these types of programs? There has also been a tendency to take an extremely broad, yet somewhat superficial, approach to this kind of research, and a concurrent failure to attempt to examine different components and how these might be interacting to affect the situation. Consequently, subsidiary questions include:

1. Which factors affect:
 - 1.1 Facilitation of the transformation of a university’s orientation toward a more sustainable basis of operation?
 - 1.2 Direct participation in the design and delivery of sustainability programs by stakeholders such as employees, students, management and external bodies? and/or
 - 1.3 Support of and for the development of implementation and communication strategies for the management of those programs by stakeholders such as employees, students, management and external bodies?
2. At which level/s in the university do 1.1, 1.2 and 1.3 occur?
3. If transformation of a university’s orientation toward more sustainable practices is deemed to have been achieved, which factors also affect the actual process of achieving ongoing sustainability objectives under

established programs (developing, setting, communicating, implementing and monitoring) by those responsible for managing them? Does this become a transactional/frontline process once the transformation is completed?

No research has been conducted into the key external factors that may also be influencing the management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas. This is of concern given the rising level of debate, awareness and action in the wider society and, particularly, given the role universities are expected to play in the sustainability context. Consequently, one of the areas of focus in this study is the potential influence of key external factors (identified in Table 2), leading to two additional research questions:

4. Do individual internal or external factors have a greater level of influence over the management of sustainability programs?
5. Do interdependencies between internal or external factors have a greater level of influence over the management of sustainability programs?

2.7 Significance of this research and contribution to the field

This research makes a number of contributions:

1. To date, the factors influencing the management of sustainability programs within the Australian higher education sector have not been researched to any great level of depth or complexity. This is well overdue considering the increasing criticism of the global tertiary education sector's continued failure to embed sustainability into curricula, research, outreach, advocacy,

community services or operations on a systematic basis. Universities based in the Sydney region face particular market, population and environmental pressures, and there is an increasing need to be able to demonstrate efficient and effective design and delivery of sustainability programs;

2. Previous research has focused on internal organisational factors that may affect the management of sustainability programs. There has been no research to date on the potential impact of key external factors such as the changing nature of the student body on the management of sustainability programs within Australian universities and, specifically, in the Sydney area;
3. There has been little to no in-depth, current research using qualitative techniques on the interdependencies between internal factors, and between internal and external factors. Previous research has tended to focus upon the use of small-scale (single institution, single-discipline or program) surveys and empirical studies, to examine individual internal factors;
4. This study examines possible challenges posed by the successful management of future sustainability programs to traditional theories of leadership and change management;
5. An outcome of this study is a proposed sustainability program governance architecture, with a central organising concept of defining the sustainability agenda on the basis of the individual organisation, and guidance and advice on how to implement sustainability initiatives from an integrated professional and personal perspective;
6. Lastly, this research has identified additional avenues for exploration and investigation that may yield further information and discoveries of

importance in the higher education/wider organisational setting in relation to managing sustainability programs.

2.8 Conclusion

This chapter has explored the literature on sustainability, change management and leadership, with regard to the possible factors affecting the management of sustainability programs in the Australian higher education sector and, specifically, within the Sydney metropolitan basin and outer regional areas; identified the gaps in the research; and presented the research problem, aims and objectives, questions and sub-questions. The significance and contribution of this research has also been stated.

Chapter 3 provides the methodology for this research.

CHAPTER 3 – METHODOLOGY

This chapter provides the methodology used in this study, including the research approach, data collection and analysis. Details of the methodological framework and processes used to investigate the key factors, internal and external, affecting the management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas are explained (Figure 2 provides a visual representation of this process).

3.1 Research approach

Objectivity and the pursuit of “truth”, as characterised by an exclusively quantitative (often referred to as Positivist) approach to research, are unlikely to align well with research seeking to examine the experience of attempting to manage sustainability programs within the university setting (for example, Bogen and Woodward 1988; Frey 1994). Previous research into this issue, using primarily quantitative techniques alone (for example, Ramirez 2006; Beringer, Wright and Malone 2008), has been highly valuable and its findings remain important. However, there is a need to delve further beyond the numbers and examine the relationships at work between various factors, in order to explore the meaning behind why sustainability programs in some universities are more successful than others.

The suitability of a purely interpretative, qualitative approach (sometimes referred to as the Naturalistic paradigm) was also considered for this research. This paradigm revolves around issues of symbolism, communication and multiple realities (for example, Bruner 1991; Bowen 2008). Rather than impose

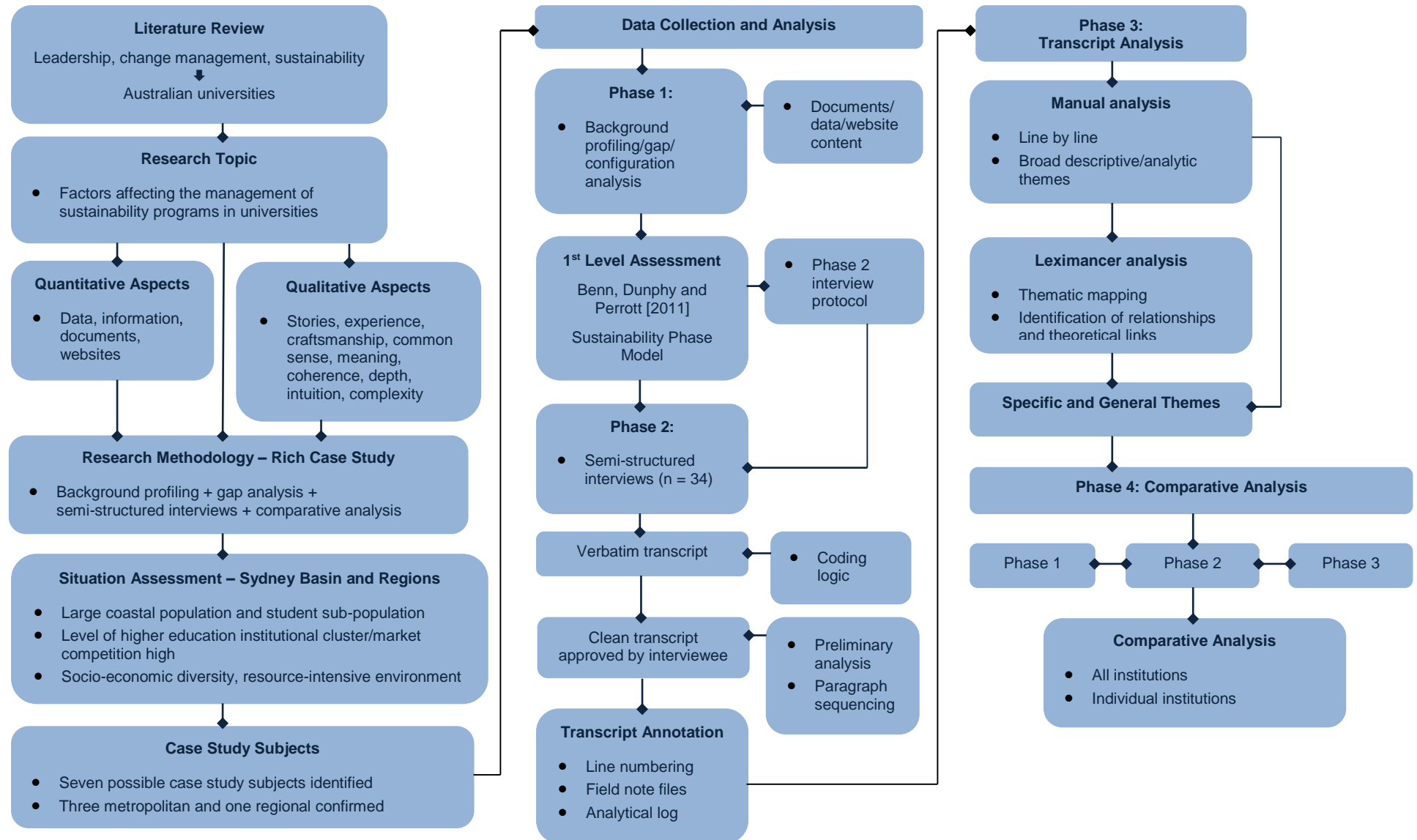
pre-conceived theories or models upon universities participating in the study, it was considered that working with these institutions to directly explore their own experiences could reveal more of the complexities behind attempts to achieve sustainability objectives in Australian universities.

However, neither of these approaches alone was ultimately decided upon. As Daft (1983) explains, and following consideration of Endrissat (2007), simply being concerned with measuring (quantitative) or establishing meaning (qualitative) does not tell the whole story of the research or assist in making full sense of the data. The telling of the story of the research – the explanation of “why” – is a process of craftsmanship in which “data collection and analysis [*quantitative or qualitative*]¹ are integral parts of the research process” but which “do not stand alone” (Daft 1983, p.541). Craftsmanship, storytelling, intuition, coherence, depth, recognition of complexity, the application of common sense, acceptance of the non-linear nature of organisations and the need to be involved first-hand are fundamental elements in explaining “why” (Daft 1983).

This study is timely in that it aims to investigate and tell the story of the actual experiences of attempting to manage sustainability programs by those working within the university environment – the reality of management versus the rhetoric of mission.

¹ Author’s note

Figure 2: Process map – methodology



3.2 Methodological approach

The ability of research using an exclusively quantitative methodology to capture the complexities inherent in organisational life has long been questioned (for example, Stogdill 1974; Hamel and Prahalad 2005). Exploration and the telling of people's experiences do not align easily with quantitative research, in the sense that it is not particularly amenable to the use of techniques designed to produce large data sets, which may then be subjected to statistical analysis.

However, qualitative research conducted from the perspective of the Naturalistic paradigm is concerned with seeing the social world from the point of view of the actor, rather than “discovering” the world that is “there to be observed” (Bryman 1984; Bruner 1991; Bowen 2008). The actor's perspective is the “empirical point of departure”, in contrast to adopting an external standpoint and imposing concerns upon social reality with little reference to the meaning of the observations taken to the subject of investigation (Bryman 1984). The qualitative approach, therefore, focuses upon the lived experience of people – it does not view people as “inert” (Bryman 1984; Bowen 2008).

Therefore, this research adopted a methodology capable of incorporating quantitative and qualitative elements into the data collection and analysis process, although the overall methodological approach remained primarily qualitative. The research methodology framework that was adopted was that of the case study – a qualitative research strategy that enables investigators to “explore...a phenomenon in context” (Baxter and Jack 2008), retain the holistic and meaningful characteristics of real-life events, and to deal with a variety of evidence (i.e. documents, interviews, observations and quantitative data)

(Denzin and Lincoln 2003; Yin 2003; Bowen 2008). The case study approach enables close collaboration between researcher and participant within a framework that ensures the application of rigour, but which is also sufficiently flexible to enable a level of objectivity to be applied to the exploration of participants' lived experiences (Baxter and Jack 2008). Tellis (1997) and Baxter and Jack (2008) reference Yin's (2003) approach which notes that a case study design is useful to:

1. Explain complex causal links in real-life situations;
2. Describe the real-life context in which an intervention has occurred;
3. Describe the intervention itself; or
4. Explore those situations in which the intervention being evaluated has no clear set of outcomes (for example, types of decisions being made, and the factors affecting decision-making).

Chapter 1 provides the research question and scope of this research, which deal with the three key initial steps of case study research as noted by Baxter and Jack (2008). These are defining 1) the research questions and 2) the units of analyses (i.e. sustainability programs); and binding the case (i.e. the sustainability programs of four universities located in the Sydney basin).

Comprehensive coverage of the logic of design, data collection techniques and specific approaches to data analysis are other strengths of the case study approach (Yin 2003; Baxter and Jack 2008; Bowen 2008). These elements as they relate to this research are covered in more detail later in this chapter.

Consequently, a rich, multiple case study methodology (using both quantitative and qualitative data, background profiling, gap analysis and semi-structured interview techniques) was adopted for this research. The multiple case study approach enables the exploration and explanation of differences and similarities between and within cases, following a replication logic where each case is a “whole” study in its own right, but where each case is subjected to the same data collection, analytical and interpretive methodologies (Tellis 1997; Baxter and Jack 2008). In particular, the exploratory aspect of this research is appropriate given the findings of the literature review (refer Chapter 2), which note that implementation of sustainability programs in universities does not appear to consistently lead to clear outcomes (refer also Baxter and Jack 2008). Multiple methods of data collection and analysis were also designed within the multiple case study approach to provide deeper insight into the complexities of the participating universities and the challenges they may be facing, that may not have been possible by limiting the methodology to one particular technique, such as a survey (for example, Moran-Ellis *et al.* 2006; Baxter and Jack 2008). The use of multiple sources of evidence also ensures construct validity within the overall research (Tellis 1997). This approach was devised with care to avoid the possibility of creating a “sequencing meta-inference” effect as a by-product of a sequential mixed-method design – particularly within the interview protocol – that could result in a confounded research outcome/s (for example, by inadvertently “priming” interviewees by releasing the interview protocol to them prior to the actual interview) (for example, Vitale *et al.* 2008).

3.3 Research location – the Sydney basin and surrounding region

The focus of the research was on universities located in the Sydney metropolitan basin and surrounding region. The Sydney area has a large number of universities and other tertiary education providers, servicing hundreds of thousands of students (via on-campus, flexible delivery and distance education/offshore), and covers diverse socio-economic demographic areas. This translates to a concentrated institutional cluster and correspondingly high levels of market competition. Further, education services, particularly with regard to higher education, are now a major export commodity – it is estimated that, in terms of export revenue in 2007/2008, education services accounted for approximately \$14 billion, second only to coal and iron ore, with higher education being the most significant contributor to the export of education services (Reserve Bank of Australia 2008). This rose to \$18.6 billion in 2009/2010, then declined to \$16.3 billion in 2010/2011; of this \$16.3 billion, higher education represented \$9.4 billion (the highest contribution by sector), and NSW \$5.8 billion (the highest contribution by state) (Australian Education International [AEI] 2011). While a further decline in education export earnings to \$15 billion was observed in 2012, the education sector remains Australia's largest services export ahead of personal travel services and professional/management consulting services (AEI 2013).

Coupled with these issues is the fact that most of Australia's population is concentrated in coastal areas, and a large proportion of this in south-east Australia. Sydney is Australia's largest urban area (currently comprising some 4.5 million people, and forecast to increase to 6 million by 2036 [OECD 2011]), with Newcastle and Wollongong comprising major regional hubs within two

hours' travel of the Sydney metropolitan basin. Over 200 years of European settlement has resulted in significant environmental pressures on this geographical area, with Sydney, in particular, being increasingly vulnerable to climate change through the impacts of hotter temperatures, greater prevalence and severity of bushfires, rising sea levels, drought and population increase (OECD 2011). Major economic impacts in relation to education services in the area include the impact on the higher education market as a result of the Global Financial Crisis², and subsequent rising Australian dollar (both of which had negatively affected the international student market, as had Federal Government changes to student visas)³.

Within this context, universities are also extremely resource intensive organisations, with billions of dollars of assets and revenues under management, and operated by thousands of staff, both academic and general. They are subsequently large employers, and large organisations with the capacity to exert great influence in the sustainability arena. The OECD 2011 study notes that commitment to transitioning to a low carbon economy in order to create a sustainable city is variable across Sydney's 41 local government areas, with no central metropolitan agency exercising a coordinating role. The fact that the OECD (2011) appears to view the vocational education and training (VET) sector as being the more natural and proactive educational leader in sustainable practice, rather than universities (or universities and VET providers in

² Commencing in 2007/2008 and fuelled by the collapse of the subprime mortgage market in the United States, the effects of the crisis continued to be felt in 2012/2013, with the ongoing bailouts of European economies in particular by the World Bank and the International Monetary Fund, and the application of "austerity measures" to economies in Europe and the United States.

³ As at March 2014, the Australian dollar had dropped to approximately 90 cents US from previous highs seen in 2013 of \$1.00 - \$1.10 US.

partnership), should be of immense concern to academic and administrative staff alike. Key points to note from the OECD (2011) study include:

- A need to articulate a vision for Sydney as an innovative, skilled and sustainable economy;
- A need for new courses in sustainable technology design, production, management and maintenance in both the VET and higher education sectors;
- Sydney is well-positioned to increase export opportunities associated with sustainability, including finance and business services, project evaluation and environmental management, education, sustainable building and construction, sustainable water systems, waste management technologies and research-based renewables/energy efficient technologies;
- Significant growth opportunities have been identified to grow green jobs and skills in building and construction, lean manufacturing, finance, energy efficient technologies and renewables;
- The VET sector has been more proactive and strategic in relation to green qualifications and employability than the higher education sector, with sustainability being mandatory content in all courses since 2009 as a result of the *Green Skills Agreement*⁴. The VET sector had been set a target of 5% enrolment in green skills by 2013, which it exceeded in 2011 when the proportion of enrolled students in TAFE NSW participating in green skills training had already reached 7%⁵;

⁴<http://www.innovation.gov.au/Skills/SkillsTrainingAndWorkforceDevelopment/ClimateChangeAndSkillsForSustainability/Pages/GreenSkillsAgreement.aspx>

⁵ Corresponding data for the higher education sector could not be located.

- While the exact size of potential opportunities regarding green jobs and the green economy is unknown at this time, there is a need to better understand and respond to the changing needs of the labour market. Australia needs to be more proactive in adopting the best practices of other countries such as Denmark, Germany, the United Kingdom and France, where these issues are driven by industry and educational institutions in partnership, rather than waiting for governments or employers to take action. There is some evidence of this practice in NSW in recent years, with the Board of Vocational Education and Training, and the four metropolitan TAFE NSW institutes (North Sydney, Western Sydney, South-Western Sydney and Sydney) being the most proactive in working together to research and promote the issue of sustainable skills development. However, much more work is required here.

Under this combination of economic, social/cultural, environmental and political factors, and given the challenges and opportunities to come, the need for universities to properly manage their sustainability programs is imperative.

3.4 Case study subjects

Seven universities were approached as the case study subjects for this research – five were located in the Sydney metropolitan basin, and two were situated in regional locations.

3.4.1 Securing the participation of case study universities

Case study organisations were initially approached to participate in the study through the most senior officer responsible for the sustainability portfolio – in most cases, the Deputy Vice-Chancellor (Administration)/Chief Operating Officer or equivalent. Letters of invitation were sent to each university on 11 August 2009, formally requesting permission to conduct the study, and:

- Explaining the rationale for conducting the research;
- Outlining the steps for data collection and analysis;
- Including a copy of the Information and Consent Form to be completed by interviewees.

Initial responses were received over the period August-December 2009. The responses were variable, with four of the seven universities agreeing to participate in the research, subject to certain conditions being met (refer Table 3).

As part of the approval/briefing process, the researcher:

- Explained the research in more detail;
- Discussed potential interviewees for the semi-structured interviews and what the university's preference was in relation to how these were to be approached (i.e. by the researcher directly or via the senior manager/member of the Executive responsible for the sustainability program);
- Provided an opportunity for each university's contact officer to raise any questions or concerns at an early stage.

Following approval to participate, the researcher wrote to the institution's contact officer confirming the points of discussion and proposing the suggested list of interviewees. Once this had been cleared by the contact officer, interview invitations were sent out and a copy of the institutional consent to participate was forwarded to the Macquarie University Human Ethics Committee, as required under the conditions of the final ethics approval (refer to section 3.9).

3.4.2 Key participating institution characteristics

1. All four participating universities had sustainability programs in place, although programs differ in age, complexity, scope and level of progress made to date;
2. Three of the universities were signatories to the *Talloires Declaration* (which defines and promotes sustainability in higher education according to a 10-point action plan), and one is also a signatory to the *Australian Technology Network Declaration of Commitment to Local, National and Global Sustainability*;
3. Three of the universities were metropolitan universities located in the Sydney basin, while one was a regional university located in a large urban centre outside the Sydney basin. Of the three metropolitan universities, one was an inner city institution, and two were outer suburban;
4. Although the four universities were approximately the same size (between 35,000 and 40,000 total student enrolments by headcount), they differed via:

Table 3: Case study subjects and responses

Institution	Metropolitan / Regional	Response
University A	Metropolitan	Agreed to participate, following: <ol style="list-style-type: none"> 1. A face-to-face briefing with the senior manager responsible for the sustainability program; and 2. Approval from the Vice-Chancellor
University B	Metropolitan	Agreed to participate, following a telephone briefing with the Executive member responsible for the sustainability program
University C	Metropolitan	Agreed to participate, following a face-to-face briefing with the Executive member responsible for the sustainability program and submission of the researcher's professional biography
University D	Metropolitan	Declined to participate. No reason was provided
University E	Metropolitan	Initially agreed to participate but due to extensive, prolonged restructuring, could only commit to research being conducted within facilities management. Negotiations continued for 8-10 months without resolution. Excluded from the research
University F	Regional	Agreed to participate, following: <ol style="list-style-type: none"> 1. Preliminary approval from the Vice-Chancellor 2. A face-to-face briefing with the Executive member responsible for the sustainability program, the Sustainability Manager and the Work Health and Safety Manager 3. Submission of the research project proposal/rationale and professional biography to the university's Sustainability Committee 4. The researcher addressing a number of questions arising from the Sustainability Committee's consideration of the research project proposal
University G	Regional	Initially agreed to participate but then did not respond to further communication over the next 8-10 months. Excluded from the research

- Their individual histories, purpose and core business (primarily learning, teaching and research profiles, but also their social inclusion/community engagement agenda);
- The socioeconomic and demographic profile of their student bodies; and
- Their funding/revenue profiles and the age, range and size of assets under management.

5. All case study subjects were headquartered in the state of NSW.

During the data collection phases of this study, the researcher was employed by another university located in the Sydney region. This university was not a participant in this research. However, the university granted the researcher permission to use her professional credentials during the course of this research.

3.5 Data collection: phase 1 – background profiling and gap analysis

Phase 1 – background profiling and gap analysis involved using desktop research to build a profile of each of the four case study subjects' sustainability programs and activities, using both hardcopy and online sources. These profiles were then subjected to:

1. Gap analysis, to examine divergences between the data and information contained in the university sources, the factors and potential impacts, as identified in the literature review for this research and the links to the research questions; and
2. Configuration analysis (following the methods of Rodwell and Shadur 2007 and Short, Payne and Ketchen 2008), which used the same sources

to clarify deliberate and emergent strategies at each university, and combine this with the results of the gap analysis.

The gap and configuration analyses undertaken for this research use a comparative approach that evaluates each university's sustainability program in terms of what was implemented and achieved, against what was originally planned and/or envisaged. This comparative evaluation was undertaken within the context of the findings of the literature review relating to sustainable practice and high-performance organisations (refer Chapter 2, p.27).

Benn, Dunphy and Perrott's (2011) Sustainability Phase Model was then used to conduct a first-level assessment of how successful each university's sustainability program had been to date.

These results were also used to provide points of focus for the subsequent interview process.

3.5.1 *Sampling method*

The desktop research process involved a longitudinal approach, with data and information collected during the period September 2008-June 2009, and again in August 2010. This approach was adopted because two of the universities' sustainability websites were under construction in 2009, and also because all four universities were expanding their sustainability programs at this time. A longitudinal approach was, therefore, regarded as necessary in order to accurately reflect the content of the universities' sustainability programs for the purposes of this research. Further, the end dates of the two collection periods

coincided with the public release of the universities' 2008 and 2009 annual reports. The reports are major compliance requirements for universities and the release of the 2008 (June 2009) and 2009 (June 2010) reports was set as the cut-off point for the collection period.

Documents sourced early in the collection period that may have been superseded by more current versions were retained in the data set. This enabled examination of how data/information pertaining to universities' sustainability programs may have developed over time.

While the focus of the desktop research was each university's sustainability website, search terminology was also used to examine each university's public website, course⁶ search engines and official university handbooks, to ensure that all available relevant material was retrieved. A "dumped" copy of each university's sustainability website content was also created to ensure retrieved data and information could be correctly situated within each institution's sustainability framework during analysis.

3.5.2 Procedure

Based on a pre-search examination of each university's sustainability website, the following search terminology was derived – "green", "environment", "environmental", "sustainable" and "sustainability". Each of these terms was entered into the search engine of each university's sustainability website, followed by the same for the public website, the "Find a Course" or equivalent search engine, and the official online course handbook. Both full and partial

⁶ "Course" refers to full qualifications. Examination of university handbooks included units that form part of full courses, as well as the courses themselves.

matches of relevant data and information were retained in the dataset. This dataset was then searched using the specific terminology “student”, as governance arrangements relating to student involvement in the participating institutions’ decision-making processes, in relation to their sustainability programs, was also of interest in this research⁷.

The desktop research sourced annual reports, course and unit information, position descriptions, media releases, event promotions, regulatory reports, planning documents, manuals, policies, guidelines, procedures, meetings of minutes and webpages. The final dataset comprised 336 data items as at 31 August 2010 (refer Table 4 for a breakdown of the volume of items by university).

Table 4: Phase 1 data collection – data items breakdown by university

Institution	Document Items	Website Dump
University A	157	Yes
University B	59	Yes
University C	68	Yes
University F	52	Yes
Total	336	

A summary list of document sources used in the desktop research phase for each university is provided in Appendix 2. The findings of the desktop research are presented in Chapter 4.

⁷ Student interviews were not included in this research, as the primary focus was on the experiences of those staff responsible for developing, implementing and managing university sustainability programs.

3.6 Data collection: phase 2 – semi-structured interviews

Semi-structured interviews were used in Phase 2 of the data collection process. This technique permitted the pursuit of lines of enquiry as they emerged, and also enabled comparison of responses across the universities. Semi-structured interviews avoid the risk of possible exclusion of information that might be obtained during interviews in the pre-planning stage, based on the researcher's perceptions of what may or may not be important; and the use of techniques that are structured to the extent that emergent concepts and issues are not able to be addressed during the interviews (for example, Denzin and Lincoln 2003; Cameron 2005). The interview questions addressed both key potential internal factors, as identified through the profiling and gap analysis phase, and questions aimed at determining which external factors may also be affecting the case study subjects' sustainability programs.

Background profiling/gap analysis and semi-structured interviews are techniques recognised within both quantitative and qualitative research practices. The use of multiple sources of evidence is also a form of data triangulation – and later, analytical triangulation – that enables cross-referencing and validation of findings/conclusions (Denzin and Lincoln 2003; Yin 2003; Vitale *et al.* 2008).

3.6.1 Narrative data in the data collection context

While the nature of semi-structured interviews, in particular, confers a certain level of standardisation on interviewee responses, it is equally important to ensure that there is capacity in the data collection process to pursue those issues that may arise outside the parameters of the structured questions. This ensures that the personal perceptions, experiences and histories of the interviewees can

be explored, and avoids the problem of the interview being dominated solely by the researcher's own predilections (for example, Hummel 1991; Llewellyn 1999; Dunn 2005; Bowen 2008).

Narrative data provides a balance between testing the researcher's own theories and concepts, and the researcher learning about what happened, how, why and what it was like from the personal perspective of the interviewee (George and Stratford 2005). Pentland (1999) notes that this type of narrative from interviewees is especially relevant to the analysis of organisations and organisational processes because people do not simply tell stories, they enact them. Interviewees not only make sense of their world in narrative terms but they proactively plan and enact narratives that are consistent with their expectations and values (Hummel 1991; Pentland 1999).

Narrative, therefore, mirrors the social world – it encodes all kinds of data that are relevant to a wide range of organisational phenomena, are also a kind of cognitive and cultural ether that permeates and energises everything that goes on, and can be a particularly valuable source of insight about organisations (Hummel 1991; Llewellyn 1999; Pentland 1999).

Therefore, the significance of narrative data lies not just in their richness and near universal availability, but in the fact that they are the same kind of data that interviewees use to plan, enact, interpret and evaluate their own actions and those of others – they are central to the cognitive and cultural world of the interviewee (Hummel 1991; Pentland 1999). Given the pervasiveness of (increasingly) decentralised processes, and the increased prevalence of processes

that include significant components performed by suppliers or customers, it is particularly important to understand who is doing what (Pentland 1999). However, the concern does not lie solely with operational matters, but also with organisational philosophy, culture and thinking in relation to key concepts – including sustainability. This applies no less to the management of sustainability programs within the university setting, and the key factors that may affect this.

3.6.2 Interviewees

Those officers identified as candidates for interviews were approached individually in writing, including provision of the Information and Consent Form as required by the Macquarie University Human Ethics Committee. Once potential interviewees had agreed to participate in the study, dates and times were negotiated to conduct the interview. If interviewees indicated they did not wish to participate in the study, a replacement was negotiated with the case study organisation where possible.

Of 50 invitations issued, 34 interviewees agreed to an interview. Of the 34 interviewees, 11 were in positions of executive leadership, eight were senior managers, 10 were academic staff and five were general staff. The managers of the sustainability programs at each institution, as well as the senior executive/manager with portfolio responsibility for same, were represented in each institution's interviewee pool. One university's interview pool also comprised members of the sustainability committee, which incorporated academic and general staff representing members of the senior executive, rather than the senior executives themselves. The interviewee profile is included in Appendix 3.

3.6.3 Interviews – *sampling rationale*

Interviews were conducted between November 2009 and May 2010, which coincided approximately with the document research phase as well. Interviews averaged 56 minutes in duration and ranged from 21 minutes to an hour and 46 minutes.

Interviewees numbered between seven and 10 for each university, and were selected with the aim of maximising the level of diversity within the interview pools. This is not a “take what I can” approach. Rather, because of the judgement and logic lying behind the search pattern for interviewees, the interview pools were deliberately chosen such that they represented the greatest degree of diversity possible in terms of the data collection process (Bowen 2008). This is recognised as a systematic approach (for example, Teddlie and Yu 2007; Bowen 2008):

- With regard to the interviews, a stratified approach with four demographic sub-groups identified from within the main demographic of interest – those responsible for the development, implementation and management of institutional sustainability programs – was adopted. The sub-groups were executive leaders, senior managers, academic staff (teaching and research) and general staff;
- Purposive sampling was also adopted with regard to interviews, as this enabled the selection of samples that represented a broader group of cases as closely as possible, while preserving the capacity to access greater depth of information from a smaller number of carefully selected cases. This also enabled a focus on narrative data, which was critical to

ensuring that the personal perceptions, experiences and histories of the interviewees could be explored (Dunn 2005; Bowen 2008);

- Potential interviewees were discussed with each institution during the preliminary meeting, in order to ensure that any officer who should be invited to participate as an interviewee was included on the invitation list for that institution.

3.6.4 Interview protocol

Interviews were conducted in accordance with a protocol informed by the research questions and the results of the desktop research (refer Appendix 4). The interview protocol comprised 18 questions and included primary and secondary questions; and also included a mix of descriptive, storytelling, opinion and “devil’s advocate” questions (for example, refer Dunn 2005). The protocol also included several prompts, and these were altered or dropped depending on how interviewees answered the questions – for example, the protocol itself includes several questions designed to clarify incomplete answers as necessary (for example, “why?”) but other types of prompts also utilised included “nudging” (for example, “what would be your view on that?”); summarisation (for example, “so, from the points you’ve just mentioned, would it be correct in your view to conclude that.....?”); and receptive cues (both audible, such as “Yes, I see”, and non-audible, such as nodding and smiling) (refer Dunn 2005). A funnelling approach was also adopted for the interview protocol, whereby more general questions were asked first, and more sensitive questions (for example, devil’s advocate and those directly challenging the *status quo* in relation to issues such as change management and leadership practice) were not asked until near the end of the interview. Dunn (2005) notes

that this approach enables the interviewer to begin with questions that are non-threatening and which are unlikely to make the interviewee feel uncomfortable and/or discontinue the interview.

The interview protocol was not provided to interviewees prior to their interviews being conducted in order to avoid the risk of “artificially created attitudes” (Vitale *et al.* 2008). This was explained to each contact officer during the preliminary meeting held with each institution.

3.6.5 Interview transcription

Interviews were digitally recorded (field notes were also taken during interviews, both for the purposes of an additional backup in case of technical failure, but also to record key points made by the interviewee, and to support the interview process from the perspective of building rapport with the interviewee by being engaged and also for the purpose of maintaining focus), then manually transcribed. Interviews were, firstly, transcribed by the researcher “verbatim” in order to “relive” the interview. Immersion in the data also provides for a preliminary form of analysis (Dunn 2005). Interviews typically required approximately six to eight hours of transcription. However, some of the longer interviews (over an hour and a half) took between 10 to 12 hours to transcribe.

“Clean” transcripts (the interviewee’s responses to the interview protocol, minus interruptions and unrelated discussion), were then prepared from the verbatim transcripts. A coding logic (refer Appendix 5) was also applied in the preparation of clean transcripts so that interviewees and institutions were partially de-identified at this stage of the process. Some identifiers remained in

the transcripts at this stage to ensure transcripts still made sense to the interviewees⁸. However, transcripts were fully de-identified prior to moving to the next stage of analysis (refer section 3.7).

The clean transcripts were then provided to interviewees for clearance and written approval to continue with the analysis. As the transcription process took some time⁹ (between two to five months to complete) interviewees were also advised that the original recording of their interview could be sent to them if requested, in the event that interviewees wished to listen to their interview again before clearing their transcript. While none of the interviewees requested the recording of their interview, a small number made changes to their transcripts. However, these were of an editorial nature and did not result in material changes to the content of their transcripts.

This process of clearing transcripts for the next stage of analysis was undertaken by email, with interviewees asked to provide their approval to continue by return email. Follow-up was conducted via email and telephone as required. Interviewees who did not respond to multiple follow-ups were advised in writing that if they did not respond by a certain date, the researcher would assume that their transcript was approved to proceed to the next stage of analysis (there were six instances of this). Approval had been obtained for all interview transcripts by 4 January 2011.

⁸ Several interviewees indicated their concerns in relation to their transcript still containing identifying material at this stage. The researcher advised interviewees of the rationale in relation to this issue and confirmed that full de-identification would take place prior to the analysis moving to the next stage.

⁹ Interviewees did not receive their transcripts until between two and five months after their interview, as the researcher was also working full-time during the course of the research. Interviewees were advised of the time delay as part of the interview process.

Once approved, clean transcripts were annotated to incorporate the full fieldnote files (taken during the interview) for the final preparation for full coding and analysis (refer section 3.7). Using Dunn (2005) as a reference point, clean transcripts were annotated to include an analytical log in the right-hand margin of the transcript. This incorporated a dot-point summary of the key issues that arose during the interview, and links to Chapters 2 and 4 where they appeared. This was not, however, used to pre-empt the analysis undertaken during section 3.7, and was used for initial exploratory purposes only.

All four universities required an explicit undertaking to be provided in writing that the institutions themselves, along with individuals, would not be able to be identified in the final thesis, or in any publication arising from same. This undertaking was also provided to individual interviewees as part of the transcript approval process, and was a requirement of the research ethics approval. All interviews were conducted in confidence.

3.6.6 *The issue of self-reflexivity*

Dowling (2005), Endrissat (2007) and Gunasekara (2007) note the reality of researchers as creatures of multiple, fluid and changing identities, and the need for researchers to recognise the nature of this terrain and the necessity for it to be negotiated and navigated as part of the research journey. Researcher identities can and do influence both data collection and interpretation/analysis, and themselves may be influenced by the context, location and behaviour (both the researcher's and the interviewee's) (Dowling 2005; Gunasekara 2007). While the exercise of "soul cleansing" is not considered productive or valuable by critics of qualitative research methodology, reflection and self-disclosure are

valuable from the point of view of ensuring that ethical dilemmas, power differentials and the other complexities of research involving interviews are made visible; are made the subject of adaptive response or other appropriate action; and to ensure that the reader is able to operate from an informed perspective regarding the circumstances and situated nature of the researcher's data collection processes (Dowling 2005; Gunasekara 2007).

Following a reading of Endrissat (2007) prior to conducting the interviews, the researcher maintained a running commentary of major issues encountered during the interview process; was careful to remain attuned to the situation and her responses to same; and also to analyse and document the issues and her responses as the interviews progressed. This enabled the researcher to ensure that a consistent approach was used for all interviewees. These experiences are summarised in Table 5.

3.7 Phase 3: data analysis

Content analysis was undertaken on the interview transcripts to examine themes that pointed to the key factors, and the relationships between them, affecting the management of sustainability programs in participating universities. Content analysis was undertaken in two phases:

1. Manual analysis – this was undertaken to engage with the data directly following the transcription process, and to facilitate early publication of broad results from 2011 in key areas of interest emerging from the desktop research, including leadership, change management, EfS, “green students” and performance management;

2. Software-based analysis – this was undertaken as a validation of the manual analysis, and also to examine in detail the relationships between the different factors and the intensity of their relative effects.

3.7.1 *Manual analysis*

Prior to commencing coding of the data, transcripts were grouped by case study subject in order to reduce the data into more manageable “packages” (for example, Auerbach and Silverstein 2003; Cope 2005; Dunn 2005). Ratner (2001) notes the need for interviews to be analysed in a rigorous and systematic manner. The actual process of the coding strategy involved two phases, although these were by no means sequential and involved both reflexive and recursive cycles as new themes and concepts emerged (for example, Cope 2005). Using lines as base units for initial coding analysis (with each line in each transcript numbered to facilitate the analysis of multiple ideas within the one paragraph), the first phase involved the identification of descriptive and manifest broad themes, obvious on the surface or stated directly by interviewees (Auerbach and Silverstein 2003; Cope 2005). The second phase involved repeating the process to identify secondary, analytic themes emerging from these broad themes. Following Ratner (2001), this process of identification was concerned only with secondary themes that could be identified as coherent and distinct ideas. This enabled the concurrent construction of a “landscape”, which ensured similarities, substantive relationships and potential theoretical links were identified as coding progressed; and which prevented the emergence of too many individual codes, thus potentially duplicating the software-based, more detailed analytical process (for example, Auerbach and Silverstein 2003; Cope 2005). The findings of the manual interview data analysis are presented in Chapter 5.

Table 5: Issues encountered during the research and responses to/management of same

Issue	Response
<p>1. Multiple identities of the researcher</p> <ul style="list-style-type: none"> • Researcher and Principal Investigator • Biologist • Higher education sector “insider” (senior university administrator in corporate governance, planning, quality management; PhD student) • Identities associated with previous experience in the public sector (noxious weed management) and private sector (construction industry) 	<ul style="list-style-type: none"> • The researcher had multiple identities and had to maintain awareness of this through the interview process in order to avoid inadvertently influencing interviewees’ responses to the questions and/or indicating that some topics may be of more interest than others – i.e., ensuring that interviewees continued to respond from the perspective of their own backgrounds and experience, rather than those of the interviewer
<p>2. Engaging with interviewees</p> <ul style="list-style-type: none"> • Interviewees often had limited time and there was often some delay between the initial invitation and the actual interview • Many interviewees did not remember the purpose of the research by the time of the interview – the researcher usually had to “re-sell” the research objectives to re-engage the interviewee’s full attention and interest. This required the establishment of a personal connection to encourage the interviewee to engage with the discussion • Some interviewees were more difficult to engage than others (for example, shyness; uncertainty about their ability to constructively contribute to the research; fear that their responses during the interview would make them look “stupid”) 	<ul style="list-style-type: none"> • The researcher employed a strategy of “identity deployment” to facilitate the connection and make interviewees comfortable/encourage them to respond to the interview questions • Identities deployed included The Biologist; The Corporate Governance Practitioner; and The Ex-Construction Industry Worker • Given the issues noted under (1), however, the researcher had to be extremely careful not to influence the interview responses by engaging in this approach – as a result, the researcher was especially careful to ensure that: <ul style="list-style-type: none"> ➤ Any emergent lines of enquiry were pursued ➤ Any questions not answered/not answered in full were reframed/re-asked as necessary ➤ Any interview questions which appeared to have been answered from only one perspective (for example, a technical perspective such as that of an engineer) were reframed and re-asked from different perspectives. This technique often resulted in interviewees thinking of other experiences/lines of enquiry that they wished to discuss, which resulted in richer responses to individual questions in the protocol

Table 5 continued: Issues encountered during the research and responses to/management of same

Issue	Response
<p>3. Methodological dilemma</p> <ul style="list-style-type: none"> Given that the research was concerned with sustainability programs, the researcher was acutely aware of the fact that she engaged in approximately 3,000 kilometres of travel by private vehicle during the course of the interview process 	<ul style="list-style-type: none"> The methodology chosen for the research required face-to-face interviews. Given that the researcher was also working full-time during the course of the research, time pressures in particular meant that the use of public transport was not generally a viable option. However, the researcher deployed as many strategies as possible to minimise sustainability concerns Public transport was used to travel to and from one of the participating universities for all meetings/interviews With the other universities, the researcher attempted to schedule at least two interviews on the one day where possible Email was used for the transcript approval process to avoid two sets of appointments for each interviewee (and therefore, more travel)
<p>4. Physical impacts</p> <ul style="list-style-type: none"> Time of year. The summer of 2009/2010 was extremely hot, with temperatures of 40° Celsius from early December in some parts. Some offices were not air-conditioned and some interviewees elected to conduct their interviews in outside areas. A small number of interviewees were also unwell or suffering from the effects of jet-lag at the time of their interviews, which compounded the effects of the heat Effect of long periods spent driving to and from interviews – this resulted in severe “driver fatigue”, particularly in the final third of the interview process Combined impact of interviews/full-time employment – this resulted in extremely long days, often commencing at 6.30am and concluding around 7.30pm 	<ul style="list-style-type: none"> The researcher was very careful to monitor the effects of heat stress and driver fatigue on her ability to conduct the research – for example, no more than two interviews were normally conducted on any one day and where possible, interviews were not conducted during the hottest part of the day The researcher did not attempt to begin transcription of interviews on the same day they had been conducted, during weeks where interviews had been scheduled on sequential days and/or where major deadlines were scheduled in relation to projects relevant to the researcher’s employment Interviewees who indicated that they were unwell or jet-lagged at the start of the interview were monitored more closely during the discussion. If they showed signs of fatigue or difficulty concentrating, the researcher stopped the interview and asked if they would like to continue/reschedule. None of the interviewees rescheduled their interviews but a small number welcomed the opportunity to stand up, move around and/or take some refreshment

3.7.2 *Software-based analysis*

Use of software packages in qualitative analysis is often criticised (for example, Peace and van Hoven 2005) for their tendency to analyse data on a basis of frequency of word occurrence – also known as manifest content analysis – rather than analysing the data on a true qualitative basis (latent content analysis). While there is a need to avoid the risk of simply utilising software-based analytical systems to uncover some form of “objective truth” in the qualitative data, it was decided to conduct a software-based analysis of the data to:

1. Provide a validation check for, and further refine the findings of, the manual analysis (for example, Cho and Trent 2006);
2. Explore in more depth and detail the relationships between different factors and the intensity of their effects;
3. Reduce the time required for data analysis, given that undertaking steps (1) – (2) above using a manual process would be highly time-consuming; and that the researcher had already undertaken a process of data immersion through the process of manually transcribing and annotating all interview transcripts.

Based on discussion with research colleagues using software-based analytical packages, three systems were evaluated for use in this research – Leximancer¹⁰, NVIVO¹¹ and MAXQDA¹². The three systems are similar in terms of their approach to analysis of qualitative data.

¹⁰ <https://www.leximancer.com/>: Leximancer, software for qualitative data analysis, 2007-2013, Leximancer, Brisbane, Australia

¹¹ <http://www.qsrinternational.com/default.aspx>: NVIVO, software for qualitative data analysis, 1999-2013, QSR International, Melbourne, Australia

¹² <http://www.maxqda.com>: MAXQDA, software for qualitative data analysis, 1989-2013, VERBI Software - Consult - Sozialforschung GmbH, Berlin, Germany.

However, Leximancer was chosen as the software for this research due to (Leximancer 2011):

- Its ability to analyse natural language text data (i.e. the text of semi-structured interviews conducted in this research without further modification once clean transcripts were approved by interviewees);
- A higher degree of automation in relation to coding of data (MAXQDA and NVIVO require the user to have a higher level of manual interaction in data coding, which involves extensive revision and refining, and which also translates to a higher potential for user error in terms of introducing researcher bias to the coding process);
- Use of conceptual analysis to identify key concepts and themes in the data, and also to examine the relationships between those concepts and themes. This ability of Leximancer was particularly important for this research, as one of the key areas of investigation was possible interdependencies (or relationships) between internal and external factors identified as affecting the implementation and management of the universities' sustainability programs.

This research used the following analytical outputs from Leximancer (Leximancer 2011):

- Concepts – collections of keywords that were closely associated in the text. Weightings were applied to keywords by Leximancer according to how frequently they occur in sentences containing concepts (these are known as “concept seeds”) versus how frequently they occur elsewhere in the text. Weightings were also applied by Leximancer in relation to how closely related the keyword is to the concept itself;

- Concept maps, where themes were identified as circles encompassing groups of concepts. Heat-mapping and circle size indicates importance, with red and orange large circles indicating the most prominent themes. Blue and green small circles indicate the least prominent themes. The generation of concept maps also supported comparison of the software-based analysis of the interview text with the landscape maps generated via the desktop research and manual interview data analyses presented in Chapters 4 and 5;
- Bar charts rank themes/concepts relative to one another. The most important theme/concept was ranked first, with themes/concepts then ranked in order of importance;
- Thematic summaries include the bar charts noted above, and also include a “connectivity score” to indicate the relative importance of the themes (i.e. a connectivity score is the ratio, expressed as a percentage, of the number of times a theme or concept is used in the text, to the number of references to the most frequently used theme or concept. That is, the most frequent theme or concept has a relevance of 100% and all other themes and concepts have a relevance of less than 100%) (Knight 2012). Leximancer (2011) does not assign measures of “strength” or “weakness” to connectivity scores;
- The thematic summary also enables the user to click on themes and their component concepts to examine the associated text.

Leximancer also features (Leximancer 2011):

- The need for the data to meet a “threshold of evidence” for a concept to be identified as such – thereby avoiding the generation of “junk”

concepts either through isolated, irrelevant occurrences, and/or concept generation simply on a frequency basis;

- The use of complex network theory in its supporting algorithms – this ensures that emergent themes are not discarded in the analytical process;
- Ease of use. Once text files for analysis are finalised, these are simply uploaded for analysis via the “Upload Project” and “Run Project” functions.

The analysis was run by:

1. Creating text transcripts that related to each question in the interview protocol. This entailed working through each interviewee’s transcript, extracting the text relating to, for example, Question 1 in the interview protocol (the role and responsibilities of universities in a sustainable society), and copying the extracted text to a single transcript for that particular question. This process was undertaken for each institution, and then combined to form a question transcript for all institutions. For example, this process derived the following text files for analysis in relation to question 1 in the interview protocol:
 - a. Q1 role and responsibilities – UniA.docx;
 - b. Q1 role and responsibilities – UniB.docx;
 - c. Q1 role and responsibilities – UniC.docx;
 - d. Q1 role and responsibilities – UniF.docx;
 - e. Q1 role and responsibilities – all.docx.

2. Each file was then uploaded and run as a separate project. This process enabled identification of concepts, themes and relevance rankings for each university, and also for the four universities as a group;
3. The analysis was initially run as what Knight (2012) refers to as an “unsupervised” exercise for discovery and exploratory purposes (i.e. standard Leximancer settings are used) and also to ensure that any “junk” concepts (text that was clearly irrelevant to the research question) were removed (if they had not previously been removed as part of the transcription process) – for example, references to effects of jet-lag or the high summer temperatures experienced by both researcher and interviewees alike during the data collection period;
4. The process was then repeated in order to enable the researcher to “drill down” into the main concepts and themes, and undertake more specific analysis. The findings of the software-based interview data analysis are presented in Chapter 6.

Analysis was not undertaken by interviewee profiles (for example, the senior executive grouping) either within or across institutions – exploratory analysis using Leximancer indicated that interviewee numbers for each grouping were too low to generate meaningful results at this level and preserve interviewee anonymity.

3.8 Phase 4: comparison of profile and interview analyses

The results of the desktop research and interview content analysis were then compared in order to examine the “rhetoric” versus the “reality” of the management of the universities’ sustainability programs. This process was also

undertaken across the four universities as a group, and then by individual institutions.

The results of the comparative analysis are presented in Chapter 7, along with a revised assessment of the institutions' approach to sustainable practice following Benn, Dunphy and Perrott's (2011) Sustainability Phase Model (refer section 3.5 this chapter, Chapter 4 and Appendix 1).

3.9 Ethical issues

The major ethical considerations of this study were to do with obtaining consent from interviewees to participate in the interviews, and have their interviews recorded; maintenance of confidentiality of all interviewee and institutional details; and interviewees' concern over being asked to express their own stories and experiences, and associated thoughts and comments. These considerations were addressed through the Macquarie University Human Ethics Committee, and the development of the Information and Consent Form.

Final approval to conduct the research was given on 19 May 2009 (refer Appendix 6). Progress reports were submitted and approved in 2010, 2011 and 2012. The Final Ethics Report was submitted on 25 April 2013.

3.10 Privacy and confidentiality

The primary concern for interviewees was likely to relate to the interviews, where they were to be asked for their personal stories and experiences.

Additional concerns may have been those of having their interview recorded,

being identified (or identifying others) during the transcription process and actually participating in the research itself.

The recording of interviews was critical to the project, as they were later transcribed and the material used as part of the data analysis process. However, in order to manage any possible concerns on the part of interviewees, they were provided with an Information and Consent Form which detailed the aims and procedures of the study, what was required of interviewees, information on recording of the interviews and analysis of the interview transcripts. The form also provided information on issues as required under Macquarie University's Ethics Committee *Guidelines on Preparing Information and Consent Forms*. This included privacy and confidentiality; a statement on any possible risk and discomfort for interviewees; details of publication of results of the research; contact details of the investigators; and a consent for interviewees to sign, noting their voluntary consent to participate in the study. Interviewees also had the option of withdrawing from the study at any time if they no longer wished to participate.

Interviewees were advised that if they indicated that they wished to withdraw from the project, any data obtained from them during the course of the interview process would be destroyed immediately. However, none of the interviewees withdrew from the research.

Interviewees, and the universities themselves, are not personally named or otherwise able to be identified in this thesis, in any of the material/data presented as appendices to this thesis, or in any publications arising from this

research. All recordings of interviews, and interview transcripts, including interviewees' details, were secured in the Principal Investigator's home¹³. Any data held in electronic format was password-protected, and stored on a laptop, with two backups on external drives, which were also secured in the Principal Investigator's home¹⁴. No material collected during this study was stored on a shared network drive.

All material collected during this study will be destroyed after five years from the date of the most recent publication. Any material in hardcopy format will be shredded. Any material in electronic format will be erased (including backups).

The Principal and Associate supervisors of this doctoral project also had access to confidential records as necessary, to ensure an appropriate level of supervision of the project.

This information was provided to all interviewees in the project. Interviewees who may have had concerns were encouraged to discuss them with the Principal Investigator.

3.11 Conclusion

This chapter has explained the nature of the research and methodological approaches behind this research, and provided details of the pool of case study subjects and interviewees. The data collection and analytical techniques have been explained, including issues encountered during the data collection and

¹³ The Principal Investigator worked in an open-plan office for most of the research, which was not secure. All material relating to the research was therefore stored in the Principal Investigator's home.

¹⁴ Ibid.

analysis processes. The research approvals for this study have been provided, and the steps taken to address issues of ethics, privacy and confidentiality noted.

Chapters 4, 5, 6 and 7 report the results of the data collection and analytical processes. Chapter 8 discusses the results and conclusions of this study. Chapter 9 provides an update to the research by briefly examining developments to 2013.

CHAPTER 4 – PHASE 1: DESKTOP RESEARCH

This chapter presents the results of the desktop research in two sections. The first section presents the findings of the gap analysis conducted on the documentary evidence of each university's sustainability program, links this with the configuration analysis undertaken to clarify deliberate and emergent strategies at each institution, and discusses the themes and concepts that emerged as a result of these analytical processes. These findings are then mapped back to the key sustainability program factors and their impacts as summarised in Table 2, Chapter 2 (p.78) in Appendix 7.

The second section presents the assessment undertaken for each university against Benn, Dunphy and Perrott's (2011) Sustainability Phase Model (refer Appendix 1). This assessment provides a first-level understanding of sustainable practice in the organisation.

The chapter concludes by discussing the specific focus points from the desktop research that were used to inform the development of the interview protocol (refer section 3.6.4, Chapter 3, p.106 and Appendix 4).

4.1 University sustainability programs – gap analysis

The gap analysis was conducted by reviewing the documentary evidence gathered from each university's website with reference to the characteristics of high-performance sustaining organisations identified through previous research and discussed in the literature review (refer section 2.2, Chapter 2, p.20). The gap analysis was conducted on the evidence gathered in 2009, and again in 2010. This process enabled identification of the primary areas of activity for each university's sustainability program, and also elements missing from each

institution's approach to sustainable practice that were likely to be affecting how programs were being progressively developed and implemented over time. Repeating the gap analysis across the two data collection periods also enabled an assessment of whether gaps identified in 2009 had been addressed in 2010, and to what extent.

4.1.1 *Gap analysis results – 2009*

The results of the gap analysis conducted on the 2009 data indicated that all four universities had made significant efforts over the years to implement sustainability initiatives. These had been primarily focused on landscape management, energy, water, waste, transport, infrastructure and other issues of mainly environmental concern. All four universities had also won a number of awards at state and national levels for their efforts in relation to sustainable practice.

However, the gap analysis identified the following elements as being generally lacking in the evidence for the universities' sustainability programs collected during 2009:

- Integration of sustainable practice with business strategy;
- Sustainability plans, policies and guidelines;
- Targets and key performance indicators;
- Performance management/reporting systems; and
- Integration of sustainable practice with enterprise risk management systems.

The gap analysis also indicated that:

1. Sustainability tended to be regarded as the sole province of the facilities management unit or equivalent, with little evidence indicating that sustainable practice was considered a responsibility of other business units;
2. Only patchy progress had been made in relation to sustaining program implementation over the long term or more typically, programs had stagnated;
3. No information was available in the collected evidence relating to issues such as funding, staffing, change management practices applicable to sustainability, external regulatory/policy mechanisms or workforce attitudes towards sustainable practice.

Interestingly, only University A appeared to have clearly identified at this time the need to integrate sustainable practice into core business across the organisation, and had set out to build a governance architecture that could eventually enable this whole-of-institution approach. This university took the additional step of commencing the development and implementation of a robust performance management system for its sustainability program – something the other three institutions had not appeared to have considered at this point. More specific findings from the desktop research in 2009 are presented below.

4.1.1.1 Integration of sustainable practice with business strategy

Sustainability was not listed in the high-level strategic planning documents of any of the universities. Sustainability featured in the guiding principles of one of the universities, and in the research and community engagement plans of

another, as specific strategies rather than whole-of-institution philosophies. One university had developed a separate sustainability strategy, but this was not publicly available at the time the research was conducted. None of the universities had made specific public commitments to sustainable practice at the vision or mission level, although one annual report did note that particular institution's aspiration to be more environmentally responsible.

4.1.1.2 Sustainability plans, policies and guidelines

Two of the universities had sustainability plans, policies and guidelines under development. The other two universities had put plans, policies and guidelines in place, but these were somewhat narrowly focused (water and energy at one of the institutions; and landscape management, water and strategy [with a specific focus on an Environmental Management System] at the other).

4.1.1.3 Targets and key performance indicators

None of the universities had publicly identified outcome-based targets, performance indicators or implementation deadlines for any of their sustainability initiatives. One university had an interim action plan available, which included identified objectives. The interim plan also identified a number of targets and performance indicators. However, many of these were indirect (approximate or representative) rather than direct measures, comprising a combination of actions, strategies, goals, milestones and outputs, but with few actual identified outcomes. "Busy" indicators (activity measures rather than outcome measures) were also a feature of the interim plan (for example, number of programs, number of brochures and number of people involved) – indicators that do not provide a link between identified objectives and desired long-term

outcomes. Timeframes often had no end-point (identified as being “ongoing”), and, while multiple positional accountabilities had been assigned at the objective level, no position was identified as the project lead. Cost and/or budgetary information was not available, although this is not considered unusual due to such information not often being a public matter at the detailed level for most organisations.

4.1.1.4 Performance management/reporting systems

The universities all included brief assessments of major sustainability achievements in their annual reports, but the focus was variable. One was more research-oriented; two were focused on landscape management, facilities, waste, water and energy. However, the fourth – the university that had taken the first step towards full core business integration of its sustainability activities – had not only created an independent sustainability report and made an attempt to report against relevant GRI indicators, but also adopted a whole-of-institution approach to its reporting. This covered broad goals, learning and teaching, governance and policy, human resources, facilities and resources, the activities of its various sustainability working groups, property development, audit, water and water harvesting, major projects, recycling and energy management.

Reporting on sustainability to the equivalent of a Board of Directors – the University Council or Senate – was variable. At one university the reporting line was not able to be determined; at another there was no reporting to the governing body on sustainability. The third’s reporting scope was limited to its Environmental Management System, while the fourth had provided a status

report to its governing body in 2007, but no further reporting since that time appeared to have occurred.

Performance management systems were not able to be identified at two of the universities based on the data and information available. A third university indicated that its performance management system was under development, with the fourth focused on periodic review of its Environmental Management System. Systematic and regular results assessment could not be determined in three of the universities, but the fourth – the most proactive – exhibited the early stages of a sophisticated performance management system through annual reporting and a separate annual sustainability report. Overall, performance indicators were few and tended to be focused on tangible outputs such as volume of recycled material and reduction in utilities consumption levels.

4.1.1.5 Integration of sustainable practice with enterprise risk management systems

Sustainable practice appears to have been integrated with the enterprise risk management systems at two of the universities (although in one of these, only at a superficial level in relation to corrective action reporting – this remains unconfirmed, however, as no evidence was available to indicate these processes had actually been activated within the organisation). The third university did not appear to have integrated risk management and sustainable practice, with insufficient information available at the fourth university on this issue.

4.1.1.6 Gap analysis results – 2009: implications

With the exception of University A to some extent, the results of the gap analysis conducted on the evidence gathered during the 2009 data collection

period provide early indications of serious flaws in the universities' sustainability programs. The findings align with previous research in the university sector (refer Tables 1 and 2, Chapter 2, pp.57, 78) relating to factors that can affect the successful implementation of sustainability programs in higher education, and also with research in other sectors highlighting key features of high-performance sustaining organisations (refer to findings of authors such as Avery and Bergsteiner 2010; Pratt and Pratt 2010; and Benn, Dunphy and Perrott 2011 summarised in section 2.2.4, Chapter 2 [p.50]). The consistent lack of elements such as clearly-defined plans including goals, objectives, actions, performance targets/measures and timeframes; systems enabling regular monitoring, reporting and progress review against identified goals and objectives; and integration of a defined agenda for sustainable practice with organisational mission and values, business strategy and risk management systems clearly indicates that the design, development and planning of the universities' sustainability programs does not appear, at this stage, to have been systematic or particularly well-considered. This conclusion is reinforced by the fact that by 2009, all four institutions had flagged the need for a major strategic overhaul of their sustainability programs.

The next section details the results of the gap analysis conducted on the 2010 data and examines whether the universities had addressed gaps identified in the 2009 analysis.

4.1.2 Gap analysis results – 2010

The results of the gap analysis conducted on the 2010 data indicated that the institutions had started to take a much more systematic approach to the management of, and reporting on, their sustainability programs. Three of the universities had also begun to make efforts to take a whole-of-institution approach and integrate sustainable practice into their core business areas. The most proactive university had, however, made much more significant progress along this path.

The results for the 2010 gap analysis indicated a notable divergence between the four institutions in their respective approaches to sustainable practice when compared with the 2009 gap analysis:

1. By 2010, University A was well on the way to realising its strategic approach as a tangible outcome, while acknowledging that it still had significant progress to make in order to be able to call itself a fully sustainable organisation;
2. University B had also identified by this stage the need to integrate sustainable practice into its core business, and had created the beginnings of a governance architecture to realise this goal;
3. However, the other two institutions had still not made the transition from sustainable practice as primarily the concern of facilities management, to begin the journey of embedding sustainability into all areas of core business.

More detailed results for each institution are presented below.

4.1.2.1 University A

University A was notable for the progress it had made in less than a year in moving toward a fully-integrated, whole-of-institution performance management system in relation to its sustainability activities. Its sustainability report, first implemented in 2008, had been updated for the 2009 reporting year to 44 pages of progress reporting across its sustainability program. This report included governance, organisational structure, its sustainability reporting framework (supported by full traffic light reporting¹, and also with evidence of the early stages of an internal customised reporting tool), integration across core business areas and identified targets and performance indicators to 2014. Key focus areas included governance, economic activity, human resources, fair trade, water, energy, waste, procurement, events, EfS, planning and development, transport, biodiversity and stakeholder engagement. Further, accountability structures had also been implemented, with sustainability key performance indicators integrated into employment contracts for the executive, deans of faculty, and heads of school. 2008 is clearly identified as the base year for data collection and the first reporting year (thereby enabling trend reporting), and the report also incorporated highlights, spotlights and action priorities for 2010.

Sustainability reporting had been incorporated into the university's annual report, however still with a focus on environmental and infrastructure items. Nevertheless, the early stages of reporting on progress in relation to learning and teaching, and stakeholder engagement (staff, students and community) had been included. Future goals had also been identified. A separate biodiversity action

¹ A traffic light report is a system for indicating the status of projects in a reporting framework and is also known as a RAG (Red, Amber, Green) Status Report. Other colours may also be used (for example, blue or grey for completed items). RAG reports are widely utilised – for example, refer Aksel (2008) on the use of RAG “spotlights” in the project management software application Microsoft Project.

plan and framework incorporated identified objectives, and costs where these were known, but did not incorporate targets or performance indicators.

4.1.2.2 University B

University B still had its interim action plan in the public domain. Sustainability reporting had been incorporated at a superficial level into its annual report, with one- or two-line references to research, learning and teaching and international benchmarking. A longer section referred to major achievements, mainly in the areas of utilities and infrastructure, but no results were provided. However, some monitoring systems had been implemented, with information available on retrofit activity, recycling and water harvesting. An audit of all units offered by the university had been conducted in 2009, with a view to identifying which units incorporated sustainability content. However, no information was available as to what had been done with the audit results. Review activity was heavily focused on the Environmental Management System, with a program of annual review and systems audit. The accompanying Environmental Management Plan identified a number of areas for action but did not include delivery timeframes for many of the identified strategies, programs and initiatives. This, despite the fact the university's sustainability governance architecture graphic depicts a framework of objectives, actions, indicators, responsibilities, timeframes and monitoring and evaluation capability.

4.1.2.3 University C

University C had made a number of public commitment statements, particularly in its strategic plan, and these were primarily in relation to energy consumption reduction and green building ratings. However, its environmental sustainability

policy was overdue for review and did not include any targets. A project charter, dating from 2007, detailing the university's approach to sustainable practice, incorporated a range of identified objectives but also did not include targets. In terms of reporting, the university had incorporated sustainability into its annual report, including major achievements, some reporting against selected GRI criteria (energy, water, emissions, waste, products and services [i.e. sustainable procurement] and environmental compliance) and performance targets for the next year. Energy and water meters had been installed, which enabled up-to-date reporting on these two utilities. The university noted in its annual report the need to build benchmark data and baselines to enable more effective monitoring and reporting of progress of its sustainability initiatives, with reviews, audits and surveys identified as key tools in this process. The university's master planning document was the only major publication available in the public domain that identified significant delivery timeframes.

4.1.2.4 University F

University F had, by 2010, incorporated sustainability reporting into its annual report, noting its major achievements and providing a results assessment against a small number of focus areas (such as energy management). However, by this time, University F did not have a sustainability plan with accompanying targets and performance indicators in place, as this was still under development. The Environmental Manager had a direct reporting line to the Environmental Sustainability Committee, and an energy management policy had also been published (while this included objectives, it did not contain any targets or performance indicators).

No additional information was publicly available in 2010 regarding any further development on integration of sustainable practice and enterprise risk management systems at any of the institutions studied.

4.1.2.5 Gap analysis results – 2010: implications

The 2010 gap analysis reiterates the implications of the 2009 gap analysis (refer section 4.1.1.6, this chapter, p.128). Despite the fact that all four institutions had progressed the development and implementation of reporting systems for their sustainability programs to a greater or lesser degree over the intervening 12 months, gaps still remained. Again with the exception of University A, gaps were apparent in relation to key elements such as sustainability plans, performance targets and integration of sustainable practice with organisational mission and business strategy. Of concern was the lack of integration of different sustainability initiatives within an overarching sustainability portfolio at universities B, C and F, indicating a clear failure to adopt a whole-of-institution approach to sustainable practice. This also raises the question of whether the need for a strategic review of the sustainability program – raised as a priority by the universities in 2009 – was actually acted upon in all four cases, as there was no evidence available indicating that these reviews had been conducted.

The findings of the 2010 gap analysis also reinforced the implications of the 2009 gap analysis relating to the approach to sustainable practice in the higher education sector compared with that of other sectors. That is, in comparison with research conducted on high-performance sustaining organisations (for example, Avery and Bergsteiner 2010; Pratt and Pratt 2010; and Benn, Dunphy and

Perrott 2011) the universities' sustainability programs exhibited fundamental conceptualisation, design and planning flaws that have inhibited the institutions' ability to make progress in developing and implementing a sustainability portfolio over the long-term. The exception, to some extent, appears to be University A in its adoption of a whole-of-institution approach, in which sustainable practice and core business were in the early stages of being integrated across the organisation.

The next section examines a number of emergent findings of the gap analyses conducted across the 2009 and 2010 data. These were issues that had not been examined to any great extent, if at all, in previous research captured in section 2.2.4, Chapter 2 (p.50).

4.1.3 *Gap analyses 2009-2010 – emergent findings*

As the gap analysis process proceeded, a common difficulty facing the four universities began to emerge. That is, that while all four universities had generally been able to identify “what” they intended to do in relation to implementing sustainable practice, determining the “how” of the implementation process had proved to be a much more significant challenge. This was a finding of some concern, given that collectively, these universities house numerous research centres specialising in various aspects of sustainable practice. However, few of the findings, achievements or outcomes of those research centres seemed to find their way back into their home institutions' sustainability programs.

A further emergent finding related to document currency and/or practicality. Some documents still available in the public domain were out of date (for

example, 2006, 2007) and some plans appeared to be too cumbersome to support practical implementation (for example, over 100 pages in one case). Several documents labelled as “plans” were, upon close reading, large-scale assessments or audits, with no content relating to recommended solutions or actions. Significant effort often appears to have been devoted to finalising or perfecting plans, rather than implementing them.

The efforts of external consultants also appeared to pose the potential to cause additional confusion in at least two instances, especially with long timeframes (for example, where recommendations on monitoring and evaluation were limited to annual counts or surveys, with five-year review of the planning documents themselves). Such long timeframes do not enable effective monitoring of program implementation, and do not enable an “early warning system” for programs that are deviating from their intended course.

The inclusion of sustainability education in professional development for university managers in the selected universities was also highly variable, ranging from formally mandated sustainability education for managers (University A), to apparently no attempt currently being made in this regard (universities C and F). The status of the professional development programs at University B could not be assessed as this university did not provide access to these programs in the public domain at the time the research was conducted.

The next section summarises the findings of the gap analyses conducted on the evidence collected during 2009 and 2010 as they related to the research questions of interest to this study.

4.1.4 Gap analyses 2009-2010 – links to research questions

The results of the 2009-2010 gap analyses provided preliminary indications relating to the first primary research question:

What are the key factors affecting the introduction and management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas?

The gap analyses highlighted a consistent failure to properly design and plan sustainability programs, and then support implementation of these with identified goals, objectives, performance targets, accountabilities and delivery timeframes. Also notable was the fact that three of the four universities had not adopted a whole-of-institution approach linking sustainable practice with business strategy. Through an examination of the history of these institutions' sustainability programs via the evidence collected in the desktop research process, it is clear that poor planning and failure to adopt a portfolio-based approach linking business activities across the organisation has inhibited these institutions from making long-term progress in line with their stated sustainability aspirations. University A again provides the contrast with its adoption of a whole-of-institution approach to sustainability initiatives.

The next section examines the results of the configuration analysis undertaken on the evidence obtained during the 2009 and 2010 data collection periods. This analysis builds on the gap analyses by exploring themes and concepts in the documentary evidence to provide further insight into the universities' sustainability programs.

4.2 University sustainability programs – configuration analysis, themes and concepts

Short, Payne and Ketchen (2008) explore the potential for use of configuration analysis in the context of the field of strategic management to examine differences in organisational identities in relation to particular issues such as sustainability, and note the use of content analysis of documentary evidence to examine these differences. Rodwell and Shadur (2007) also explore the use of content analysis of documentary evidence to examine whether strategies implemented to support particular activities (in this case sustainability initiatives) are deliberate (clearly identifiable as being intentional in nature) or emergent (identifiable through examining activity patterns and indicative of a lack of deliberate intention). Using sentences as base units to examine deliberate and emergent strategies and their occurrence (a form of pattern analysis, refer to Gläser and Laudel 2013) across the documentary evidence collected during 2009 and 2010 enabled the identification of four broad themes – environment, leadership and change management, EfS and student involvement in sustainability programs. Further, three sub-themes emerged from the evidence specific to EfS, relating to whether or not sustainability was considered to be integral to the core business of learning and teaching. Figure 3 captures the themes, sub-themes and concepts that emerged as a result of the gap and configuration analyses in a landscape map. Table 6 captures identified deliberate and emergent sustainability strategies by university, with University A clearly distinguishable by the intentionality of its approach to sustainable practice.

Figure 3: Desktop research landscape map – identified themes, sub-themes and concepts

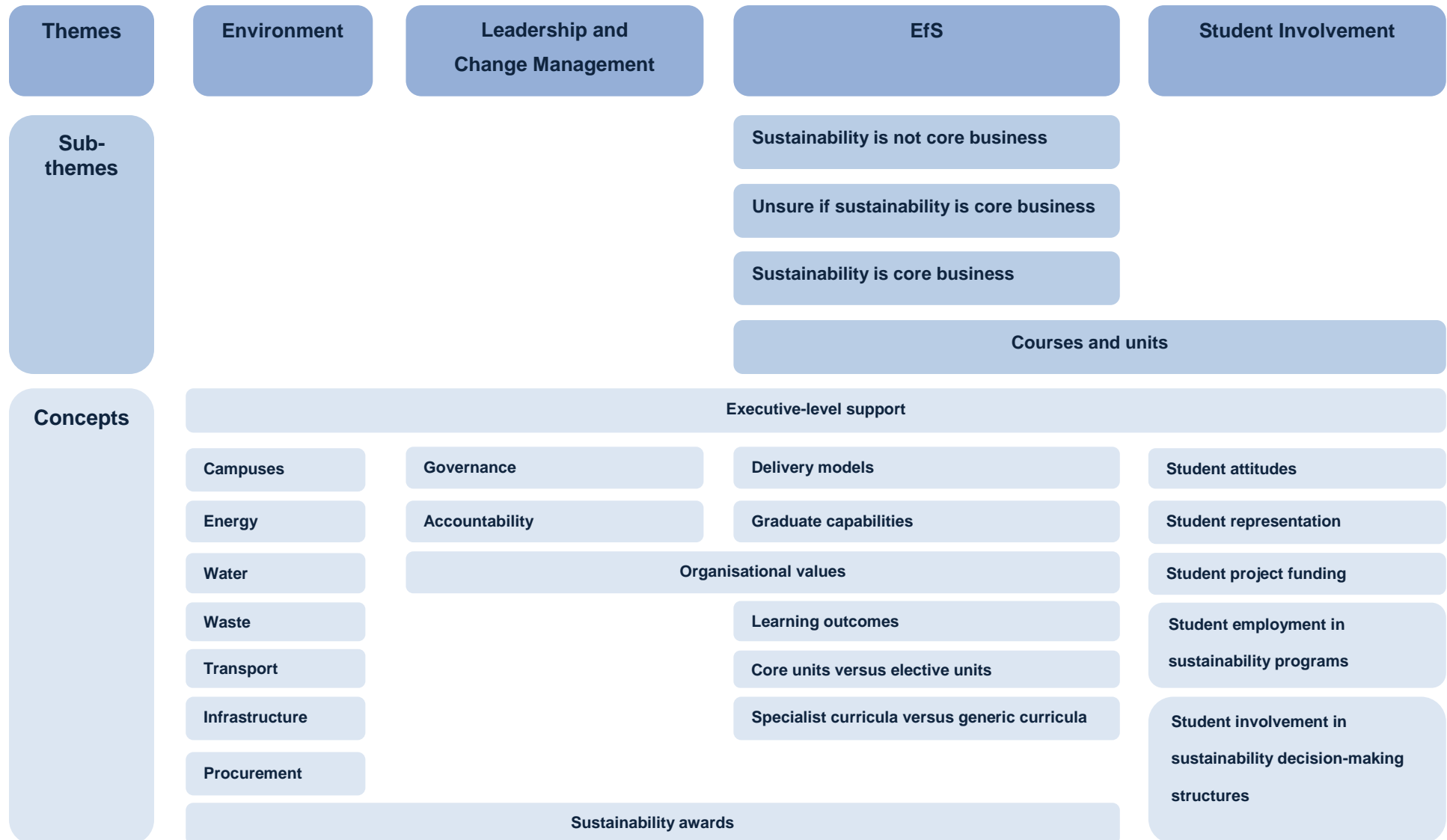


Table 6: Deliberate and emergent sustainability strategies by university

Strategy	University			
	A	B	C	F
Executive-level support	●	●	●	●
Concept of sustainability as core business	●	●	●	●
Integrated approach to sustainable practice	●	●	●	●
Sustainability plans, policies and guidelines	●	●	●	●
Governance architecture for sustainability	●	●	●	●
Performance management system, including targets and key performance indicators	●	●	●	●
Reporting, monitoring and review systems	●	●	●	●
Accountability structures	●	●	●	●
EfS strategy or framework	●	●	●	●
Environmental issues a key focus area for activity	●	●	●	●
Sustainability embedded in professional development frameworks	●	●	●	●
Student involvement in sustainability	●	●	●	●
Sustainability integrated with enterprise risk management system	●	●	●	●

Table key:

1. Deliberate strategy ●
2. Emergent strategy ●
3. No clear indication of strategy intent as a result of gap and configuration analyses ●

The following sections discuss these findings in more detail.

4.2.1 *Sustainability program key activity area – environmental initiatives*

As noted under section 4.1.1 of this chapter (p.124), the universities' sustainability programs are notable for their focus on environmental initiatives related to issues such as energy, water, waste, transport, campus landscaping and built environment and to a lesser extent, procurement. These initiatives have variously taken the form of energy and water conservation strategies (such as use of harvested rainwater to flush toilets and water gardens, and installation of solar panels), diversion of waste from landfill and provision of infrastructure to promote reuse and recycling, creation of more drought-tolerant garden precincts, installation of meters on buildings to monitor energy and water use, promotion of public transport and purchase of Fair Trade² products such as coffee and tea. University A has established a comprehensive reporting system to ensure ongoing monitoring of its environmental initiatives, with universities B, C and F at the early stage of creating their reporting frameworks. Despite the gaps identified in section 4.1, the efforts and achievements of the universities in relation to the stewardship of their resources should rightly be celebrated.

However, as the following sections demonstrate, integrating sustainable practice with other elements of the organisational landscape has proven to be more challenging for the universities.

4.2.2 *Leadership and change management*

Reviewing the material available on the participating universities' websites did not provide any significant insight into how these organisations viewed the integration of leadership and change management practice and behaviour, in

² <http://fairtrade.com.au/>

particular as this relates to their sustainability programs. Focusing the analysis on institutional annual reports, as well as sustainability strategy documents, policies and action plans, did reveal some key points:

1. Each institution notes that it is “committed” to sustainable practice, with three of the institutions also stating that they are signatories to the Talloires Declaration;
2. The following words or phrase feature prominently in these types of documents:
 - Obligation;
 - Best practice;
 - Ethical;
 - Leadership;
 - Engagement;
 - Communication;
 - Education;
 - Awareness; and
 - Responsibility.
3. Executive and management support is articulated as being key to the achievement of each institution’s sustainability program.

The analysis indicated that there is a clear understanding by each institution of the importance of executive leadership support for such programs. Indeed, each institution has an identifiable champion at the executive level, indicated as providing direct support and leadership to their university’s sustainability program. However, the desktop research could not determine the extent to which this was a symbolic gesture versus an accountability mechanism through which

objectives were identified, targets and performance measures established and adequate resources provided.

Further, there was little indication of how the executive leadership team as a whole leads the management of change as part of facilitating the achievement of identified sustainability goals and objectives. Of the four participating institutions, only one university had identified the need for sustainability key performance indicators for each executive team member's portfolio, along with the deployment of these down through portfolio line management responsibilities. These executive-level key performance indicators were progressively being identified and implemented as this research was being conducted.

4.2.3 *EfS*

The desktop research resulted in a number of findings relating to EfS and its incorporation in university curricula, and also to the different approaches taken towards this work. These findings illustrate the patchiness and variability that tend to characterise efforts to embed sustainability into learning and teaching in universities to date, despite the many years of work that have been devoted to this endeavour. All four universities have provided, and continue to provide, specialist offerings in areas such as environmental management. However, none of the universities has been successful to date in mainstreaming sustainability across all discipline areas. The apparent intention to do so has been made explicit by all four universities (for example, via strategic statements, curriculum audit and the creation of one mandatory sustainability unit for all undergraduate students), but only one of the universities has made demonstrable progress here.

One of the universities is notable for the fact that it has chosen to adopt a strategic approach designed to embed sustainability in learning and teaching from the twin perspectives of this being the core business of the institution, and also a capability by which its graduates will be defined in the future. Generally, these findings indicate that this university's approach is differentiated by its focus on actual business and graduate outcomes, with evidence of leadership and change management. The other three universities appear to still be operating from a perspective where sustainability has a more peripheral status in terms of curriculum content, with little evidence of leadership and change management practice within the EfS context. More specific findings relating to EfS are presented below.

In 2009, three approaches to embedding EfS in curriculum were reflected in the evidence from the desktop research.

4.2.3.1 Sustainability? Well, it's not really core business

This characterises the approach at this time of universities C and F to EfS:

- University F's strategic plan and institutional profile note the provision of "cutting-edge, contemporary curriculum", and "first-class teaching designed to inspire and transform students"; a parallel statement also notes the institution's commitment to the principles of environmental sustainability. However, while the annual reports of 2007 and 2008 also note the institution's commitment to environmental sustainability, there is no mention of EfS;
- University F also established its Environmental Sustainability Committee in 2008; however, EfS did not feature in its terms of reference. EfS also

did not feature in the role responsibilities of the Environmental Manager position recruited in 2009;

- While University F's course handbook made mention of various types of environmentally-related courses at both undergraduate and postgraduate level, the only explicit reference to EfS was contained on University F's sustainability website. This was to the two units available to undergraduate students in 3rd year dealing with advanced studies in sustainability and also planning for sustainability. However, these were electives and were not mandatory content across all course offerings;
- University C differed in that it appeared to have been proactively engaged in EfS since 1998, including the establishment of a working party of the Academic Board on sustainability in learning and teaching, appointing a project manager in sustainability in learning and teaching for a period of 12 months and a one-day roundtable on sustainability in curriculum attended by most of the faculties;
- University C's sustainability website also listed business programs at undergraduate and postgraduate levels as having sustainability embedded as core units in these courses. Doctoral and masters research programs in sustainable futures also featured on the site. A range of more traditional course offerings were also available at this time (mostly focused on the engineering, science and architecture/construction disciplines);
- The work of University C in EfS appears to have stood it in good stead over the intervening 10 years, culminating in the institution being a finalist in the 2009 Banksia Awards³ – partly because of its efforts to embed sustainability into learning, teaching and research;

³ <http://www.banksiafdn.com/>

- However, this is then where the work invested in EfS as an element of core business appears to shift to being a second-tier priority behind more operational matters at University C. While the strategic plan notes the broad commitment to sustainability as a guiding principle, with learning and teaching accompanied by statements such as “innovation”, “renewal”, “international”, “diversity”, “sustainability dimensions” and “real-world”, sustainability is not defined or incorporated as an integral element of learning and teaching under University C’s newly-created sustainability framework or sustainability policy (despite the framework also noting that the institution’s approach to sustainability would position it as a market leader in environmental studies). It is unclear from the desktop research why this has occurred;
- University C’s 2007 and 2008 annual reports refer to proposed new courses in environmental studies but do not provide any specific details;
- Based on the position description of the time, the role responsibilities of the Sustainability Coordinator at University C did not include EfS.

4.2.3.2 Is sustainability supposed to be core business?

University B at this time did not have an articulated strategy around EfS. However, the desktop research indicated a growing awareness within the institution of the need to determine the current status and identify a way forward. The evidence indicated that:

- While the strategic plan dated 2007-2009 noted the institution’s commitment to sustainability, the concurrent learning and teaching plan made no mention of EfS, despite its statements around professional orientation and excellence in interdisciplinary education. University B’s

annual reports of 2007 and 2008 did not mention EfS, and nor did the (undated) Sustainability Strategy. A somewhat symbolic level of commitment to EfS is indicated in the interim sustainability action plan of the time, with a section on “sustainability awareness”, noting that the institution would “promote and support opportunities for teaching activities regarding environmental management and sustainability” – associated performance measures related to “promotion of collaboration and communication”, and “number of teaching activities” and “students undertaking environmental/sustainability studies”;

- However, University B had been proactive in undertaking an audit of its entire unit profile to determine the extent to which environmental/sustainability content had been incorporated into curriculum:
 - 223 units were identified with some kind of environmental/sustainability content;
 - Of these, only 38% were actually on offer in 2009, with 62% not on offer;
 - 53% of the 223 units were “owned” by schools operating in the sciences and engineering disciplines, and not evenly spread across the university.
- University B also noted that, in 2009, it was moving towards the development of “sub-majors in environmental management and sustainability”, and also “transdisciplinary ‘green’ degrees such as environmental law”. However, there was i) no timeframe put on this work and ii) no indication of how the institution was going to address the findings of the content audit it had undertaken;

- University B advertised for an Environmental Engagement Facilitator during 2009, but there was no mention of EfS in this role's responsibilities.

4.2.3.3 We think sustainability is core business

This is the approach exhibited by University A:

- Unlike the other three institutions, University A redefined its approach to sustainability as a core business issue from an early stage. As a first step, it commissioned a benchmarking report that examined its entire sustainability portfolio – including incorporation of sustainability in learning and teaching;
- This was followed by the creation of a Learning and Teaching Action Group, which developed its own action plan and commenced work with various groups across the institution, including the Senate and the Curriculum Renewal Project;
- This led to sustainability being incorporated as a core value in University A's learning and teaching plan, which, in turn, was focused on the development of “engaged and ethical local and global citizens”;
- Further, sustainability was identified as one of the defining themes of the graduate capability framework – “a guiding principle within which curriculum is developed” – the sustainability parameters being “continuous learning commitment”, “creative and innovative”, and “socially and environmentally active and responsible”;
- Learning and teaching was incorporated into the institution's sustainability policy; EfS was also identified as a responsibility of the

sustainability team in partnership with the academic units of University A;

- In 2009, the direction of EfS was towards the development of a green paper for consultation, including “examples of sustainability in learning outcomes and teaching/learning activities and assessment”, and also “links to resources and tools”, along with “a discussion of the barriers to integration of sustainability in curriculum and wider implications of its inclusion”;
- Learning and teaching featured in the sustainability section of the 2008 annual report regarding the work done on the graduate capability framework, and the 2009 sustainability strategy specified a number of targets around sustainability and learning and teaching – by 2014, “total number of students having taken at least one unit with substantial sustainability component” (80%), “total number of courses that have an applied research/learning element on or off campus” (100%) and “total tenured faculty specialising in sustainability focused teaching” (at least 50%);
- University A’s sustainability website noted specialist courses at postgraduate level in sustainable development, and specialist course content available in the different academic units of the institution.

2010 saw a further divergence of approaches by the institutions, with University A continuing to progress its more strategic approach to EfS, and the other three institutions appearing to adopt incremental change only. The desktop research also revealed that one institution appears to have been caught seemingly unaware in the “greenwash” trap.

4.2.3.4 University A

Unlike the other three institutions, University A has continued with its strategic approach to EfS. The green paper on EfS was followed by a white paper prepared by the Senate on the Review of Academic Programs, which introduced the concepts of “people”, “planet” and “participation” into the curriculum model. Under this model, all students would be required to have undertaken at least one people, one planet and one participation unit, with the goal being to create “working citizens who can contribute to an environmentally healthy and equitable society”.

Other initiatives included creating a new Sustainability in Learning and Teaching Grants Scheme totalling \$80,000, and publication of a booklet by the Sustainability Team and the Learning and Teaching Centre outlining the context for incorporating sustainability into curriculum and providing examples where this was already happening across the institution. Both initiatives were designed to support the transition to integration of sustainability into curriculum. Workshops were also held with Heads of Department to drive dialogue around sustainability in learning and teaching.

Revised learning and teaching targets for 2014 had also been set – courses with sustainability components (at least 75%); number of students having taken at least one unit with a substantial sustainability component (at least 80%); courses with an applied research/learning element on/off campus (100%); and tenured faculty specialising in sustainability-focused teaching (at least 50%). Indicative data available in 2010 indicated that the performance targets for students having undertaken at least one unit with a substantial sustainability component, and

tenured faculty specialising in sustainability-focused teaching, had reached 2% (data was not available for the other two targets at the time this research was conducted). While these figures indicate the size of the task to be accomplished, it is clear that University A has a framework in place and work on achieving stated outcomes is well underway. Again, within the context of this university's general approach to sustainability, this is distinguishable as a "whole of institution" approach, which the other three institutions are yet to adopt.

4.2.3.5 University B

University B appeared to have progressed its approach in a much more incremental fashion, with the institution still having not developed an articulated EfS strategy. As at 2010, the 2009 annual report notes that the Academic Planning and Course Approvals Committee of Senate "considered strategic development of sub-majors dealing with sustainability themes for approval by Senate". However, no further information was available regarding the future direction of EfS at this institution. As at 2010, EfS remained absent from the university's sustainability policies.

4.2.3.6 University C

The institution had previously noted that sustainability was a core unit in undergraduate and postgraduate business courses. In 2010, investigation of the course guides and handbooks for 2010 and 2011 indicated that:

- "Corporate Governance and Sustainability" was a core unit in the Executive MBA⁴ course;

⁴ Master of Business Administration

- Sustainability did not feature in either the core unit listings for the standard MBA course or the unit list for majors, minors and electives in same;
- In the case of the Bachelor of Business, the “management” and “tourism” majors listed sustainability as a major unit; however, the course had no core units listed that focused on sustainability. Of 13 majors listed, only two had sustainability-related units as major units.

No further information was available in the public domain on EfS as a strategic issue, and it was not mentioned in the institution’s sustainability framework. The strategic plan made no mention of sustainability in learning and teaching, and a review of the handbook by discipline area again illustrated the variability of sustainability content across disciplines – some discipline areas had only one or two units available in the field, while others had 20-30 listings. Most discipline areas had no specific course offerings, while others had several courses available in various sustainability/environmental-related areas.

This situation is by no means unique to University C, as the literature on EfS demonstrates. However, the issue for this institution is the risk of the reputational damage it faces through being accused of “greenwash”, given statements on its sustainability website that sustainability forms part of the core offering of the business discipline in particular, when investigation of the course information reveals this is not the case.

4.2.3.7 University F

By 2010, this institution had adopted a position of communicating its environmental/sustainability offerings more clearly, with at least seven available courses at undergraduate and postgraduate level, although still concentrated in the engineering, science and business disciplines. Available units were also clear, with 14 possibilities, six of which were 3rd year offerings, three were 1st year and five were for 2nd year.

Course offerings for 2011 indicated a further diversification, with new courses including sustainable resource management and development studies. Sustainability-related units also appeared as core content in courses such as construction management and industrial design alongside “traditional” courses in science and engineering. However, University F remained without an articulated strategy around EfS, and there was no mention of same in the business of the Sustainability Committee and its underlying framework. The 2009 annual report did mention the development of a new elective unit available to all undergraduate students, but no timeframes were provided. Of note is the fact that this intended new unit was an elective, rather than a common, mandatory unit across all disciplines.

4.2.4 Student involvement in sustainability programs

All institutions studied offer courses and research programs specifically aimed at students wishing to graduate in the field of sustainability, as well as environmental science, management, law and other related areas of study. The evidence, however, gathered from the universities’ websites indicated two key

issues in relation to students and student attitudes in relation towards sustainable practice and the environment:

1. The institutions appear to have a commitment to, and actively promulgate, student involvement in the decision-making structures that govern their sustainability programs:

- All the institutions had various program and process components in place to enable student participation where appropriate in the institutional sustainability program;
- The nature and level of student representation on the actual decision-making structures with regard to sustainability programs appeared to be consistent in terms of the types of structures in which students tend to be involved (refer Table 7); There was also evidence of other approaches and programs that provided students with real opportunities to become involved in the sustainability program, thereby enabling active participation in decisions that were likely to result in productive outcomes for each institution. Examples include employing students as part of the sustainability team, and providing project funding to students where projects met certain criteria designed to result in actual outcomes and a return on investment to that institution's sustainability program;
- However, what was also clear from the evidence gathered from the universities' websites is that these initiatives only involve a small number of students (between one [typically a student representative on a formal committee] and approximately 15-20 [working groups and funded projects]) from within student

Table 7: Decision-making structures and the level of student involvement in sustainability programs for participating universities

University	Decision-Making Structure	Level of Student Involvement
A	<ul style="list-style-type: none"> • Sustainability Working Group • Sustainability Action Groups (advisory) • Sustainability Directorate (operational unit) 	<ul style="list-style-type: none"> • One undergraduate and one postgraduate student representative • Student representation voluntary • Students employed as part of the Sustainability Directorate team
B	<ul style="list-style-type: none"> • Advisory Taskforce • Sustainability Fund (project funding) 	<ul style="list-style-type: none"> • Two student representatives • Available to students as well as staff – direct impact on the sustainability program as one of the criteria is that all projects must have a positive rate of return to University B
C	<ul style="list-style-type: none"> • Sustainability Working Groups 	<ul style="list-style-type: none"> • One student volunteer per working group for a period of 12 months
F	<ul style="list-style-type: none"> • Sustainability Committee 	<ul style="list-style-type: none"> • One student representative

communities of tens of thousands. Overall, student involvement in the actual decision-making structures affecting the operation of institutional sustainability programs is, therefore, minimal.

2. Quite apart from the issue of student involvement in decision-making structures, is the issue of whether each institution has a clear understanding of student attitudes towards sustainability and the environment. Further, whether such understanding informs decision-making with regard to the development and implementation of each institution's sustainability program. The website search indicated that there was no evidence in the public domain that any of the universities studied were incorporating research on student attitudes towards sustainability and the environment in developing and implementing their sustainability programs.

4.2.5 Identified themes and concepts - implications and links to research questions

Chapter 2 explores in detail two key issues:

1. The importance of integrating sustainability, leadership, change management and core business to the high-performance sustaining organisation; and
2. The challenges faced by universities in their attempts to integrate sustainable practice with core business and ensure sustainability initiatives are supported by strategic approaches to leadership that also lead the management of change to effect long-term sustainability outcomes.

The findings discussed in this section reinforce the findings of section 4.1 and also concur with previous research in the field as discussed in Chapter 2. That is,

three of the four universities' sustainability programs variously display the signs of a lack of conceptualisation, design and planning (the primary impact here being the patchy nature of the programs themselves and the tendency for initiatives to stagnate). However, the more serious flaw as demonstrated by these findings is that of a general failing to integrate sustainability initiatives under a whole-of-organisation approach. The difference between a deliberate, considered and integrated approach to sustainable practice, and an approach that tends to be more emergent, is clearly demonstrated in Table 6 by the contrast between University A, and the other institutions.

The nature of the sub-themes, and discussion concerning these, in relation to the broad theme of EfS also highlights the failure of the participants (again with the exception of University A) to ensure sustainability is integrated with the core business of learning and teaching. Further, the findings in relation to the Student Involvement theme indicate that engaging the wider student body in sustainability initiatives appears to be a particular challenge.

These findings provide further insight into the first primary research question:

What are the key factors affecting the introduction and management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas?

That is, while a considered approach to the conceptualisation, design and planning of a sustainability program is critical to its success – as is the design of an appropriate implementation framework through the identification of

appropriate goals, objectives, targets, performance measures, accountabilities and delivery timeframes – it is also vital to ensure that sustainability, core business (in this case EfS) and strategies for wider stakeholder engagement (i.e. students) are well-integrated. As the research discussed in Chapter 2 demonstrates, bringing these elements together under a whole-of-institution approach is essential to ensuring that sustainable practice is a central concern of the organisation in a similar fashion to that of work, health and safety or risk management, rather than a peripheral issue given only token support.

Finally, the implication of the results of the desktop research presented in sections 4.1 and 4.2 is that a lack of appropriate leadership and change management practice may have contributed to the challenges faced by these institutions in attempting to implement sustainability initiatives over the long-term. However, the evidence from the desktop research is not clear that this is the case, although there is certainly an evident understanding of the need for executive-level support for sustainability initiatives in the documentary data. The issue is whether this understanding, from an intellectual perspective, has then translated in practical terms to actual “on the ground” support at the executive level for progressive implementation of sustainable practice across the organisation.

The next section uses the results of the desktop research to conduct a first-level assessment of the universities’ approaches to sustainable practice by mapping the results of the gap and configuration analyses to Benn, Dunphy and Perrott’s (2011) Sustainability Phase Model. This assessment is designed to provide a

preliminary indication of how successful each university's sustainability program has been.

4.3 First-level assessment – Sustainability Phase Model (Benn, Dunphy and Perrott [2011])

Benn, Dunphy and Perrott's (2011) phase model of strategic sustainability (refer Appendix 1) demonstrates how organisations move through different stages of activity as they aspire to higher standards of human, economic and environmental sustainable practice, supported by increasingly sophisticated and integrated strategies relating to business opportunities, innovation, governance, participation and organisational transformation. The model comprises six phases, ranging from rejection of ("Freeloaders" and "Stealthy Saboteurs") and non-responsiveness to ("Bunker Wombats") issues of sustainability, through to the ultimate aim of being a fully sustaining organisation – known as the "Transformative Futurists". Phases Three – Six of the model (Compliance – "Reactive Minimalists"; Efficiency – "Industrious Stewards"; Strategic Proactivity – "Proactive Strategists" and The Sustaining Corporation – "Transformative Futurists") are described by clear sustainability objectives, key business opportunities, typical actions, business benefits, targeted waste and prevailing themes (refer Appendix 1).

The four universities studied in this research all displayed examples of proactive approaches to individual aspects of sustainability at an advanced level. For example, three of the participants are signatories to the Talloires Declaration (refer Chapter 2, p.35) – participation in international agreements is recognised by Benn, Dunphy and Perrott's (2011) phase model as a typical action of a Stage

Six Sustaining Corporation (the Transformative Futurist). However, from a whole-of-institution perspective, based on the results of the desktop research, and in comparison with the phase descriptors in Benn, Dunphy and Perrott's (2011) model, the participants appear to be operating largely within the sphere of Phase Four – Efficiency of the model. The prevailing theme within this phase is “do more with less”. The next sections discuss this assessment in more detail.

4.3.1 *University A*

University A appears to be operating at an advanced level of Phase Four – Efficiency, largely due to the breadth of its suite of environmental initiatives. These are strongly focused on reducing resource use, and either reducing waste generation or diverting waste streams from landfill to recycling or reuse activities. Typical actions characterising a Phase Four organisation include meeting the requirements of the GRI international reporting guidelines for sustainability and redesigning products (in this case EfS) – both of which are part of University A's sustainability strategy, which is clearly distinguished by a deliberate focus on a whole-of-institution approach.

However, University A is also aspiring to Stage Five of the model – Strategic Pro-activity. This is demonstrated by University A's strong commitment to sustainability, increasing employee involvement in sustainability initiatives and examining new ways of embedding EfS in courses and units. This is an achievement to be celebrated by University A given its revised approach to sustainability has only been in operation since 2008. However, the desktop research analysis indicates that University A still has some way to go in embedding sustainability across all areas of its core business through innovation

and redesign strategies; ensuring its management system is improved in order to effectively monitor and evaluate progress against identified objectives and targets in all areas; and comprehensively involving all stakeholders in its sustainability portfolio.

4.3.2 *University B*

The focus of University B on environmental initiatives also indicates that it is operating largely at Phase Four – Efficiency of the model. However, much of its approach to sustainability remains emergent (refer Table 6) despite the evidence in the desktop data of an increasing awareness and understanding of the need for 1) a whole-of-institution approach to sustainable practice and 2) articulation of an EfS strategy, including clarification of a way forward to capitalise on early work done in this area.

Of concern regarding University B is the continuation of elements of Phase Three – Compliance in its approach to sustainability. University B's Environmental Management System is heavily compliance-focused and primarily concerned with the avoidance of risk – the prevailing theme of Phase Three.

4.3.3 *University C*

University C had clearly signalled its intention to adopt a comprehensive approach to sustainable practice focused primarily on its built environment. Clear evidence was available relating to a master plan that will ultimately result in precinct-wide reconfiguration of its infrastructure to utility-efficient operating systems. However, the university's focus on utilities and infrastructure, lack of

an integrated approach to sustainability generally and an emergent approach to EfS indicates that University C is operating at Phase Four – Efficiency of the model.

A particular risk for this university's reputation results from statements regarding integration of sustainability into curriculum, when this can be demonstrated not to be the case. For this institution to focus on an advanced approach to Phase Four, and possibly aspire to Phase Five of Benn, Dunphy and Perrott's (2011) model, it will need to focus on a broadening of its approach to sustainable practice and ensuring that what is stated as having been achieved can actually be evidenced.

4.3.4 *University F*

Given the fact that much of University F's sustainability program remained under development at the time of this research, it proved more difficult to undertake a preliminary assessment of this university against Benn, Dunphy and Perrott's (2011) phase model using the desktop research data. However, based on the available data and information (particularly the focus on utilities and infrastructure and the paucity of information available on the university's approach to EfS) it appeared that University F was most likely to be operating at a transition point between Phase Three – Compliance and Phase Four – Efficiency. Clarification of this institution's direction and areas of focus in relation to its sustainability program through planning, implementation and resourcing strategies is necessary to confirm whether the university has fully progressed to Phase Four.

Generally, a significant impediment to the four institutions' efforts to progress towards the outcome of being a sustainable organisation is the ongoing failure to integrate sustainability into curriculum and involve the wider student body in sustainability initiatives. University A has made the most progress in relation to EfS, while student involvement appears to remain limited to a small proportion of the student body. This state of affairs reflects the research cited in Chapter 2 regarding the challenges faced by universities in integrating EfS in curriculum and cultivating students' ecological intelligence.

The desktop research findings provide an insight into the “what” of the universities' sustainability programs. However, in order to understand the “why” of how these programs have developed and evolved (or stagnated) over time, there is a need to examine the experiences of those tasked with the implementation and management of the universities' sustainability programs. Chapters 5 and 6 focus on the results of the semi-structured interviews designed to explore the experiences of those officers. The next section provides the focus points for the development of the interview protocol used in these discussions (refer Appendix 4).

4.4 Desktop research findings – focus points for interview protocol

In considering the findings of the desktop research, the following were identified as focus points to inform the design of the interview protocol:

- The role and responsibilities of universities in a sustainable society;
- The level of understanding and awareness surrounding the design and operation of the universities' sustainability program;
- Whether sustainability programs are regarded as being successful or not;

- The internal and external factors affecting sustainability programs;
- The focus of activity within the sustainability program and where this activity is occurring within the institution itself;
- The internal and external factors affecting stakeholder participation in sustainability programs;
- The nature of the leadership and change management practices associated with sustainability programs;
- The extent to which sustainability programs involve long-term transformational activity and/or short-term transactional activity;
- Whether or not Australian universities exhibit a poor approach to sustainable practice and why this might be the case.

4.5 Conclusion

This chapter presented the results of the desktop research undertaken on the information and data available in the public domain on the participating universities' websites during 2009 and 2010. Through a process of gap analysis, examination of deliberate strategies and emergent issues, identification of themes and concepts and preliminary assessment against Benn, Dunphy and Perrott's (2011) Sustainability Phase Model, it has been possible to develop a first-level understanding of the history, status and achievements to date of the participating universities' sustainability programs.

This indicates that the four universities have made variable progress to date on their sustainability initiatives, with only University A appearing to have determined that sustainability is a strategic organising principle for the institution itself, and transformed its approach to sustainable practice

accordingly. However, while the desktop research has been revealing in terms of the “what” of these programs, there has been little insight available into the leadership and change management practices underpinning them, or the internal issues that may be impacting on why the institutions have chosen their different approaches. Chapters 5 and 6 provide the results of the manual and Leximancer analyses of the interview data, and examine the different factors affecting these programs, the relationships between them and the intensity of same.

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CHAPTER 5 – PHASE 2: MANUAL INTERVIEW ANALYSIS

This chapter presents the results of the manual interview analysis in two sections. The first section presents the findings of the transcript analysis, which used a similar process to that used for the configuration analysis undertaken on the evidence gathered during the desktop research (refer Chapter 4). Using lines as base units for analysis, broad themes and concepts were identified (refer section 3.7.1, Chapter 3, p.111). Repeating this process identified a number of distinct sub-themes associated with the broad themes and concepts. While these sub-themes did not tend to be directly articulated by interviewees in their initial responses to interview questions (in contrast to the broad themes and concepts), they were identifiable as distinct ideas that were more emergent in the discussion between the researcher and interviewee as the interview progressed.

Three broad themes were identified as a result of the analysis – leadership and change management, EfS and student involvement in program decision-making, with concepts of capability, responsibility, governance, accountability and stakeholders appearing as common points of discussion within the three broad themes. The majority of the emergent sub-themes tended to be more specifically aligned with one of the three broad themes. Figure 4 captures the themes, sub-themes and concepts that emerged as a result of the manual content analysis undertaken on the interview transcripts.

An anecdote, highlighting the experience of one senior academic in attempting to embed EfS in a masters by coursework program and maintain this work over time, concludes the chapter.

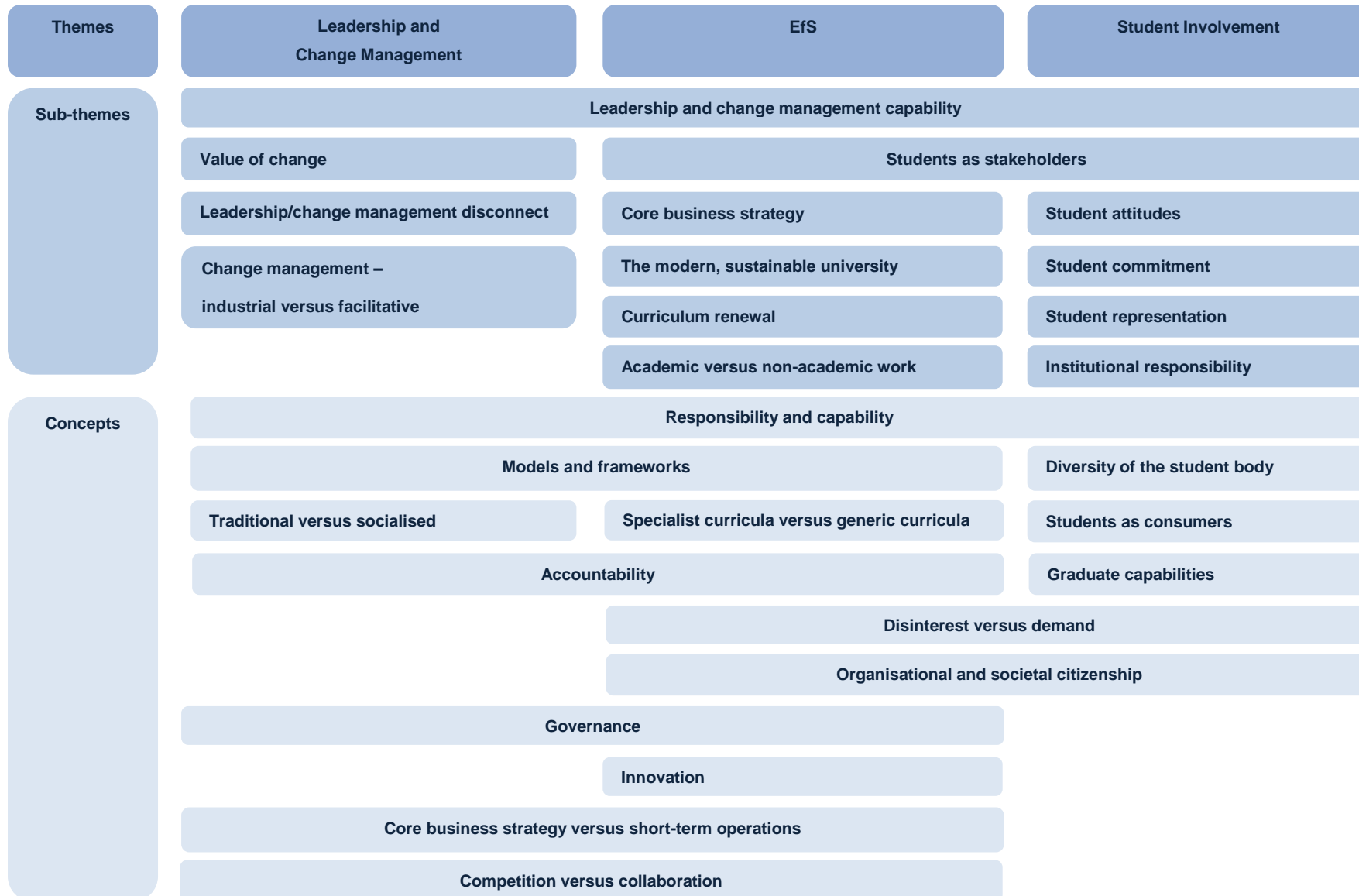
5.1 General findings

The broad themes that emerged from the interview transcript analysis aligned with those that emerged from the desktop research analysis, with the exception of the “Environment” theme (refer Figure 3, p.139). Interviewees did not tend to respond in detail regarding environmental initiatives, although there was certainly broad agreement that these initiatives have been, and will continue to be, important elements of university sustainability programs.

However, Figures 3 and 4 illustrate the difference between the sub-themes and concepts that emerged from the desktop research analysis and the interview transcript analysis. The evidence from the interview transcript analysis illustrates shared issues of capability, accountability/responsibility, citizenship, core business and governance. The desktop research analysis highlighted issues related to the planning and design of sustainability programs themselves. However, both analyses reinforce the research literature discussed in Chapter 2 from different perspectives by implicating the following as factors that can affect implementation of sustainability initiatives:

1. Issues related to the broader organisational landscape (including leadership, change management, governance, accountability and stakeholder involvement); and
2. The technical aspects related to program design (including integration of sustainable practice and business strategy, creation of appropriate performance management systems and development of plans and policies).

Figure 4: Manual interview analysis landscape map – identified themes, sub-themes and concepts



The findings from the interview transcript analysis are discussed in more detail in the following sections.

5.2 Leadership and change management

Analysis of the interview data from the four participating universities offers some reasons as to why integrating leadership and change management practices and behaviours at universities appears to be so problematic. On a positive note, there is clear recognition by all four universities that a sustainability-educated and aware leadership, which leads by example, is regarded as key to the achievement of sustainability programs.

However, most interviewees felt that university leadership cultures and promotion practices, as they currently exist, are incompatible with the leadership models required to produce leader behaviour that will result in long-term organisation-wide transformative change.

“...you mentioned...issues like leadership and what impact that might have on how we think about sustainability. I think that goes beyond saying have we got someone who’s beating the drum really hard in relation to sustainability and pushing the University...”

“...I think the leadership issue is one that’s most successful when everyone takes on that responsibility, and everyone takes on a leadership role...everyone picks up and perceives that they...have got key leadership responsibilities...and if we get

that message out that everyone's a leader in what they're doing, there'll be a whole lot of little gains and little changes that will add up to quite substantial change".

Deputy Director, Facilities Management

"...I don't think that most leaders are prepared for sustainability...as a sustainable leader it's about a characteristic of something that you hold that is part of who you are...if you're going to be a leader in this sector then I think you have to get your head around this...I know every time we make a decision I have to factor that in. And it's just simply that triple bottom line thinking with everything, and it's not something you just say 'Oh, well I'll just ignore it today because it doesn't matter'".

Senior executive member responsible for students and campuses

Further, there did not appear to be a clear understanding in a general sense of how to develop this kind of leadership within existing institutional frameworks, while the inclusion of sustainability in performance accountability systems appears to be almost taboo. However, those who did refer to performance accountability were very clear about the need to do this in order for the institution to be able to systematically demonstrate outcomes and impact, and embed sustainability into decision-making at all levels.

"... if an organisation is to have sustainability as part of its core activity, then that has to become part of the selection process,

and assessment and performance and award systems...so it has to be... seen as a core activity, not as a desirable add-on...”

“...and I think probably you would have to say that for most senior managers, perhaps other than the people who have specific responsibility for facilities, energy...you get a sense that they’re the only people who are being judged by those things, whereas the head of an academic department or the head of a school, or a Dean...wouldn’t have those things in their job description”.

Director, Research Institute

Although the difficulty in implementing change in universities was recognised, it was also clear from the interview data that change management is often viewed as an issue completely separate from institutional leadership practice and behaviour. This disconnect in perspective was particularly marked amongst interviewees who viewed change management from a purely industrial relations perspective, rather than from a perspective of facilitation, education, learning and achievement.

“...I think most universities...are not change capable...universities are very good at ‘what’, and absolutely useless at ‘how’...They’re great at talk, because people are trained to talk, so when in doubt they just love the idea of ‘Ready, aim, aim, aim, let’s have another meeting, aim, let’s

bring in a consultant, aim, oh, it's Christmas, see you in March''.

Senior executive responsible for sustainability portfolio

“...the more fundamental problem is that there is not a value in higher education for the importance of having a capacity for change. The most exciting universities are the ones who have accepted that change is always with us...the point of creating a capacity for change and openness to change is to learn not to demonise change, and that's a big shift for higher ed...”

Senior executive member

“When I came into the higher education sector, I was dumbfounded by both the need and the desire to socialise everything to the point where if the broader group decided ‘You know what, it may be the right thing to do but we don't want to do it’, it didn't happen. Change management, actually creating change, within higher ed, is probably one of the most difficult sectors to try it in. Even within the government sector I watched people do it more quickly than in the higher ed sector. Here you're dealing with a community which has this credo of creative freedom – you cannot stymie my right to talk, my right to think, my right to this, my right to that, and it just overlays everything you try to do, so instigating, implementing, putting in place change is very, very difficult”.

Senior executive responsible for sustainability portfolio

Interviewees provided more detailed insight into issues of leadership and change management within the context of EfS – these findings are presented in section 5.3.

5.3 EfS

Analysis of the interview data confirmed many of the findings from previous research about the types of barriers faced by those attempting to embed sustainability education in their institutions (refer Chapter 2). However, the analysis also revealed some factors that previous research does not appear to have addressed; and uncovered additional facets of already-identified barriers that may be of assistance in ongoing efforts to address EfS issues. Of more concern, however, is the fact that the analysis clearly indicates that the two most significant barriers to EfS in the participating universities are the failure to clearly delineate EfS as a component of core business, and an accompanying lack of leadership and change management in reorienting universities in this direction with regard to their learning and teaching activities. The analysis presented below examines the findings relating to EfS in more detail.

5.3.1 *Leadership and EfS*

Several themes were apparent in the leadership category, with a number of interviewees commenting that universities generally have not developed the necessary culture of strategic and enabling leadership (refer Chapter 2, p.72) to facilitate EfS as a feature of the core business of learning and teaching.

“In the academic world...this is based on limited experience now, but you end up with academics who get put into

leadership positions who actually don't want to be in leadership positions. But it's your turn! You then get into this position of leadership, which you know is temporary, and you're then going to go back into the academic community, and they say 'Ooh, well I'd better not do too much to rock the boat here, because I'll get Mary annoyed with me, and it's Mary's turn to be (for argument's sake) the Dean next time, and I don't want her taking it the wrong way and taking it out on me when I go back to academia'. So nobody's willing to change anything, because it's going to impact on all their peers and cohorts and friends''.

Senior executive responsible for sustainability portfolio

“They have lost their moral compass. They've become too entrenched in running it as a business, so therefore the discussions that you then have at a leadership level are around the dollars and cents of running the business. Well, it's a given – you need money to do what you do – but I can't say that too many universities would be having the discussion around what are their moral obligations, and how do they ensure that occurs, whereas what they're trying to do here with this new curriculum is very much around trying to understand that moral obligation in those three areas, and that's a big thing to chew. If that can come off and really start to entrench itself, then it will separate this uni from most of the others...”

Senior executive member

“I think it’s particularly notable...with regards to changing people at a high level or a higher level, Executive Director level...all of a sudden you’ve had this university jumping up and down and saying we support this and isn’t this fantastic, and if you have a change in your key leaders or your key people, all of a sudden who no longer support this idea of sustainability, they often don’t even know what it means, all of a sudden you hit up against all these brick walls, so you know, the University’s made commitments, it’s made statements, it’s said all these sorts of things that are no longer possible simply because now in this key leadership position, there’s a person who doesn’t”.

Sustainability manager

Specific points of concern included:

- A focus by university leadership on the short-term, leaving little to no room for long-term “moral” leadership;
- A lack of integration of leadership responsibility across the university executive, with the result that the organisational reality often tended to be a number of “mini universities” (for example, the University of Research; the University of Learning and Teaching; the University of Operations), largely operating independently and masquerading as an integrated organisation, “University X”;
- Little to no engagement with the entire sustainability agenda by the institutions’ governing bodies;

- Lack of experience, preparedness, capability and ability in those appointed to positions of leadership, particularly on the academic side;
- The existence of outdated leadership styles, focused on internal competition rather than collaboration.

Other comments from interviewees noted the lack of clarity around accountability for EfS in universities and the accompanying location of leadership responsibility for development, implementation and management of EfS initiatives. Responses indicated that the senior executive, senior academics and the sustainability manager (or unit) all have EfS leadership responsibilities and accountabilities. However, implementation continues to be frustrated by the lack of a vision and framework for how these responsibilities and accountabilities interlock to deliver whole-of-institution change.

Another element that emerged from the commentary was the characterisation and role of the sustainability manager or equivalent in the university sector versus particularly the private sector, with a common issue being the image of the sustainability manager as the “superhero” responsible for the entire sustainability portfolio (including an implied responsibility for EfS, despite the fact that the desktop research noted that EfS was not explicitly identified as a responsibility of the sustainability managers at these institutions); and a consequent lack of ownership by other senior managers around an issue that – at least on paper – is identified as being important to the whole organisation.

5.3.2 *Change management and EfS*

Comments from the interviewees largely confirmed the findings of previous research (for example, Tilbury 2011; Lovins 2012), with the tendency towards structural silos and the resultant barriers to communication being an on-going problem in relation to EfS initiatives. A related issue was a poor change management culture and accompanying practices, with a number of interviewees noting the apparent lack of institutional understanding, especially at the senior levels, that change is always happening, and not a series of disconnected “events”.

“...until relatively recently, I don’t think universities had change management practices, at least not in my experience, but then I’ve only worked in universities for 20 years, so I wouldn’t know”.

Pro Vice-Chancellor, Research

However, many of the responses from senior executives seemed to indicate a clear understanding of consultative change management practice and the fact that change is continuous. This conflict of perspectives would appear to indicate that the change management disconnect (where leadership and change management practices are not aligned – refer Chapter 2, p.75) may be located in lower-level management positions, and not just a result of structural silos and accompanying communication barriers.

“...change management will not succeed if individual leaders are the key crux to it succeeding – it needs to be a shared

agenda, a broad agenda, across a whole host of different levels, and everybody needs to play their part. It needs to be clear about what everybody's parts are..."

"...if you approach change management in that regard, one or two managers who are...blockers...can't undermine the whole agenda...as long as you do change management properly, which is about getting an agreed, shared agenda, being very open and transparent and being very communicative about what everybody's roles at what all the different levels are, then managers who block things start not to have so much influence, because actually, your role is clear and your manager can't block you from doing something that is part of your role".

Senior executive member

"The first is steered engagement. The second is change doesn't happen, it must be led. The third is consensus around data, not around the table. The fourth is we wind to great heights by a winding staircase. And the way you populate and do that is listen, link and lead, but always listen with a menu. People learn by experience, not just by being lectured at, so create a living lab, at least as a prototype. Change is learning, it's not an event, and therefore you've got to understand how adults learn, and that notion of extrinsic motivators – would you like a job? – gets attention, or intrinsic motivators – we have a moral purpose – can get attention. Or, would you like to look good

and get some funding?...the final one is that framework, if you don't have a way for people to understand the conceptual framework within which you're locating your work, people will not understand the big picture from the small".

Senior executive member responsible for sustainability portfolio

Of particular concern was the lack of processes, pathways and frameworks to manage change, with one sustainability manager commenting that not having any kind of map by which to navigate the approval and consultation processes within the institution meant that many initiatives – not just those related to EfS – spent an inordinate amount of time in the “ether”, or were simply lost entirely:

“...there are no established methodologies to really get such changes approved by the Executive in a way that people understand. There's no established ways to communicate things up, and then for them to get communicated down, it's all kind of a bit haphazard. You either find a champion or you don't...there's perhaps this meeting you could get it presented at, maybe you should go to that one, so it's very haphazard in the way that it deals with things...even at that sort of higher level authority and approval for you then to move on and make those changes that you have determined are required. So there's problems on all sorts of levels and I think that that's probably the key one...”

Sustainability manager

An unexpected result was the varying responses from those interviewees in executive and senior positions about the sustainability focus of their institution and their thoughts on progress made in implementing EfS initiatives. Opposing responses from interviewees in the same institution were not uncommon. It was also not unusual for the researcher to receive a response along the lines of “Oh I don’t know about that, you’d have to talk to X”. Unfortunately, an apparent lack of consistent understanding among the senior levels of the organisation about strategic initiatives is a clear indication of poor leadership team cohesiveness (for example, Werbach 2009). This, in turn, points to a failure of change management practice with regard to the sustainability program and illustrates that accountability/performance management structures are either unclear at the senior executive level, or have not been established for different elements of the program itself. This aligns with the findings of the desktop research illustrating the lack of performance management and accountability systems for university sustainability programs and the effect this has on the ability of the organisation to monitor progress in implementing sustainability initiatives.

5.3.3 *Core business strategy and EfS*

A new area of findings relates to the business aspects of learning, teaching and EfS. Despite previous research findings illustrating the inflexibility and resistant nature of academic culture within universities, senior academics within the interview pool were quite clear about the business drivers associated with EfS (if not the value-add EfS can bring to universities) and the need for institutions to be more proactive about embedding sustainability education into discipline curriculum.

Interviewees identified the increasing pressure from course accreditation panels and professional industry body requirements as a major driver for curriculum innovation and renewal around EfS, and concurrent pressure to at least maintain, if not exceed, standards of academic quality and rigour. The lack of funding to support this work in universities was also identified as a key barrier to curriculum innovation and renewal.

“In engineering it’s been a requisite for Engineering Australia for a long time. It’s also coming from other directions like community, community agencies, and they’re asking for particular specialised courses to be integrated into engineering degrees as well. In other courses, for example, material courses, a lot has already been incorporated into the course about green energy, about sustainable principles. In engineering, it’s been required by the other bodies when they do all the auditing, the whole bit every three years – accreditation. During accreditation they stressed this and are very particular about this. In fact last time, two years ago, they had interviews and they actually interviewed us. 90% of the interview was about how we see sustainability issues and how they’re incorporated into our courses, with examples and what we’re doing about it, so there’s quite a lot of positive momentum there...”

Academic staff member

Broadening the external perspective, senior academics also acknowledged that national and international EfS frameworks, changing market forces regarding the

need for employees with an understanding of sustainable practice (as it relates to their discipline of study and the nature of their employment) and increased emphasis on the need to demonstrate “return on investment” in relation to the core business of learning and teaching, were combining to exert significant strategic pressure on universities, such that EfS is no longer an “optional extra”. Rather, from the perspective of external influences, at least, it can no longer be ignored as a strategic issue affecting the core business of universities. Accompanying this is the need for universities to be able to provide evidence for the progress they are making – including in relation to “market research” on student attitudes towards sustainability education, and how this is being taken into account in decision-making on how to renew curriculum in different disciplines.

“...Sustainability is increasingly part of many professions, so universities have to incorporate sustainability into curriculum...discussion is underway regarding specialised sustainability degrees – however, the market for these...is not clear yet...such initiatives would need to make a business return – some subsidisation might be acceptable but anything that is subsidised would need to have significant strategic impact...could incur some losses as such in relation to courses designed to test the market, but this would not be the preferred option and would be discouraged...sustainability offerings as niche programs would not be approved, but incorporation of sustainability into base degrees will be supported...any boutique offerings would also not be considered feasible, but

the University would consider proposals where viability and quality can be established...market research will be essential in program development – new offerings need to expand X's market and reach, must add value, must make sense strategically, and won't be supported with set-up funds..."

Senior executive member

5.3.4 Students and EfS

Specifically in relation to how students viewed EfS as part of their course, rather than involvement in sustainability programs more generally (refer section 5.4), the results from the interviewee analysis provided conflicting viewpoints within institutions, with some interviewees commenting on student disinterest in relation to sustainability education, and others noting the high level of student demand on same.

"...the usual barriers, you know, the difficulty of addressing student demand. If the student demand's not there, how can the University afford to do it, you know?"

Director, Research Centre

"I think the contradictions that young people are faced with within in a whole range of areas is an example of why they don't value a lot of learning, and a lot of scenarios where unis aren't walking the talk, and if you are teaching sustainability within an institution and you're not practising it, and you walk out of a classroom, what are you left with? A contradiction of

what you think is the right thing to do...I think absolutely it's critical, to set those standards".

Senior executive member

This analysis does not suggest that these viewpoints are uninformed or incorrect – interviewee comments were based on teaching experience and anecdotal evidence, and it is not unreasonable to expect that students studying in the environmental sciences may hold a different view of sustainable practice than those in structural engineering. However, this finding does underline the results of the “Core Business and Strategy” sub-theme (refer section 5.3.3) in that there is a need for universities to be able to demonstrate that they have an evidence-based understanding of student attitudes to sustainability education as part of managing their core business of learning and teaching (refer also Butt, More and Avery 2013).

“One wonders what actual difference that makes to students. Obviously in terms of course selection, if someone wants to study something in sustainability, they will pick a university that offers it, but are they saying ‘This university’s not doing anything about energy efficiency or this or that’, does that actually influence them? It would be really interesting for us to have some reliable data about that sort of stuff. Are students willing to pay more to come to a university that’s buying 100% green power or whatever, because these costs do have to be borne by someone, somehow, and it’s an interesting thing how much of an issue it is for students. It’s an area that would be

really helpful for people to get some sort of reliable data, because it's really just anecdotes. It's people just making claims that Generation Y cares about the environment, or your reputation will be improved and you'll get more student enrolments – people just make these really glib claims...but unless you actually have some proof, you're not necessarily going to do things differently...fundamentally it's a moral imperative. We know that things have to change – if universities aren't out there leading the charge, well who will? But there are potentially all sorts of secondary benefits that you can use to help sell the case to people who don't necessarily see it in that light, but not unless you've actually got a bit of confidence about it, because everyone can see through glib claims”.

Sustainability manager

The results also highlight the fact that, while an understanding of student attitudes and demand is important to EfS, these issues are not the only drivers affecting EfS initiatives. A valid observation from the research was that students often arrive at university with a mental picture of their chosen area of study which does not usually reflect the reality of either tertiary study or employment in the field, and it would be most unwise from a risk management perspective for an institution to base its EfS strategy on considerations of student demand or disinterest alone.

“...because they come into the University with a particular picture of what an engineer does, and this is not what an engineer does in their perception of it. Now, part of our role is to educate them as to what an engineer really is...so you teach them the environmental, you teach them how to write...I mean, a whole bunch of things that they say ‘Oh, that’s not what an engineer does’. So the problem is in terms of the degree, it’s only in terms of the saleability to the students...when you look at the marks for incoming students, we’re admitting as many of those sorts of students as we can admit, we can’t invent a demand for those courses, so I think to some extent we’re limited, first of all by market conditions in terms of what sort of degrees students perceive they need, and second is even within the existing degrees, we’re limited, particularly in the professional degrees, by what the professional organisations require of us, and what the students perceive. I mean, the student perception shouldn’t be the criteria, but if you’ve got too much of that sort of stuff you start to impact on the students’ motivation”.

Academic staff member

5.3.5 *The modern, sustainable university*

The interview analysis supported previous research findings in that interviewees felt that two characteristics of the “modern university” included being models of sustainable practice, and transforming students into “citizens of the planet” (rather than simply producing more marketable potential employees).

“...more profoundly and more importantly, universities really have lost their way if they see they’re simply producing people to fit in with the current requirements of employers. What we really need is universities to create graduates who are ethically robust leaders of change implementation in their area of expertise, so it’s not just knowing stuff, it’s actually making desirable things happen, but behaving in a more explicit way ethically, so universities have a role not just in environmental sustainability but in social sustainability, we’re confronted by fractious divisions around the world”.

Senior executive member responsible for sustainability portfolio

However, several interviewees noted that, despite these aspirations, most universities do not practice what they teach (and often do not teach either); and that, instead of adopting a “know it all” position, universities need to come to a better understanding of what it is that they actually contribute to society.

“I just think universities need to be a bit less focused on how collectively clever they are, and start focusing a bit more on justifying what they actually contribute to the society that they’re part of, and if they focused a bit more on that, and a bit less on the showing off, I think they’d be far more useful institutions, and I think they’d actually be more widely respected. To me tangible outcomes are very important”.

Sustainability manager

Further, where those contributions are found to be lacking or requiring improvement, universities should identify ways of addressing this “rhetoric to reality” gap.

“I think you’d probably have to say that...the issue of sustainability is a broader issue, the fact that we’re saying to people we want to back away from over-specialisation, and we want people to not only be interested in the planet and its sustainability, but also understand issues of social science and understand issues of business, because they’re all connected actually. So I would say that that’s an example of the need to always reinvent, change and again...it’s a bit like over-corporatisation. If you get to the point where, as everybody has been on this treadmill of increasingly a degree as a meal ticket, to some defined vocation...that’s also sort of disastrous, and it’s logical extreme, so I think reinvention is always part of that. Been in universities a long time, the cycle always turns...been in a huge renewal phase, which is about the sustainability of the organisation of course, and where we want to be, and our agreed position is that the only really viable place to be is a high quality organisation, and internationally perceived and nationally perceived – that’s the only buffer you have against the fortunes. And so the reinventing...from where we were is just a critical part of that activity, and they’re all connected”.

Deputy Vice-Chancellor, Research

5.3.6 *The nature of work in universities – academic versus non-academic*

While the findings tend to support previous research, in the sense that academic cultures are often viewed as inflexible and resistant to change, the interview analysis revealed that there are deeper issues to be examined here. Comments from interviewees illustrate the distinctive “dual citizenship” nature of the typical university workforce, with the nature of the work undertaken, and the accompanying accountability structures, between the academic and non-academic workforce often perceived as a major barrier to change of any kind, let alone in relation to sustainability initiatives.

“In the service areas, like Facilities Management or Human Resources or Finance or any of those service delivery and support areas, you’ll tend to have managers or people who are more used to a management framework. So you’ve got clear directions, you’ve got clear outcomes, clear accountabilities, you’ve got budgets and you’ve got actions etc...So when you place accountability within a university within say Facilities Management or whoever, there’s a fair chance you’re going to have a group of professionals there who are professional managers, and whose first responsibility is the service delivery”.

“When you go to a Faculty of course – and I’m not saying they’re not professional – what you’ve got in faculties is people whose first loyalty is to their discipline, and so that can mean different things. It can place a different slant on sustainability.

When you look at the way people involved in sustainability research or teaching or whatever deal with issues is quite different to how we might deal with them...I think one of the problems is that differential between the way academics work and think and so on, and the way professional services groups within institutions work, and how you bring them together is a real challenge. That's less about the hierarchy and more about the way of thinking and the experiences. You know, people might come from industry, who are very used to a command and direct culture, or worked in environments where they're more directed, or directing. Academics tend to be more self-directing, that's the nature of academic work, and that suits certain mentalities and certain people, and then when you try and shoehorn that into a hierarchy it often doesn't work for many academics. So I just think that's a reality we have to recognise and then work out what's our strategy to deal with it, and I think it's one of consultation and engagement, and you've just got to accept sometimes you're not going to win".

Director, Infrastructure

A key differentiator often identified by interviewees is the focus of individual loyalty in the academic versus the non-academic workforce, with the former often exhibiting a greater degree of loyalty to discipline and colleagues, and the latter to the organisation itself.

“Interdisciplinary work remains a challenge for most universities – we’re getting better at it, but that’s a recent phenomenon – and the idea that the academic staff and the general staff identify as a member of an organisation, and that as a member of that organisation they should be interested in its sustainability and in sustainability actions is also a relatively recent concept”.

Senior executive member

Of relevance to change management (refer sections 5.2 and 5.3.2) is the finding that several interviewees noted the need for university leaders to better understand this duality of the institutional workforce; and the consequent need for a more enabling leadership that is able to socialise the culture and processes of change in order to facilitate sustainability outcomes, both in the academic and non-academic arenas.

“The introduction of any new idea or any priority or any new strategy in academia is problematic because there isn’t the natural cohesion that exists in industry where we can say things like ‘We’re Arnotts and we make biscuits’, and everybody in the organisation can say ‘we make biscuits’. In universities, its education, its research, its training, its ideas, its different things and different constituencies, there’s so many different stakeholders – in terms of your peers, what you’re publishing, where you’re presenting, who’s interested in your innovations, and business and industry, how does it affect society – there’s

too many dimensions. So I think sometimes things like sustainability can be rather overwhelming, and people may take a more passive posture and wait to be told ‘This is what we’re going to do’. Oh, ok, I can sign on to that – or not. People make very individual decisions about does this idea around sustainability actions appeal to my values, to the way I structure my work, and I’ll make a decision on whether or not I want to participate...the capacity for comprehensive change is not great in any university”.

Senior executive member

5.3.7 Curriculum renewal

“...yes, one would expect that a modern university curriculum would...by and large encourage students to think about problems...think about sustainable solutions to problems but also to think about the whole question of social and environmental sustainability as, you know, the challenge which faces all across many different kinds of academic disciplines...”

Faculty Dean

The findings from the interview analysis tended to confirm the results of previous research (refer Chapter 2), with the perceived size of the “curriculum task” and the “concrete” nature of existing curriculum being viewed as the major challenges to curriculum renewal:

“...but the backlash of just trying to change the curriculum is difficult, because some people’s lives are entrenched in that subject content. To turn around and say that that’s no longer a valued part of what we do, we’re going to cut that back, it’s like cutting somebody’s ankles off. I think that’s the same with any shift in these big institutions, they’re not designed to be flexible. They’re designed to, as institutions, where everything gets planted into the ground, never to be changed, and that’s why I think sustainability’s so difficult in these environments”.

Senior executive member

A number of interviewees highlighted the political and highly contested aspects of curriculum change in universities, especially those of “mainstreaming” versus “specialisation”.

“...do you introduce courses into a program to do with sustainability? The problem is that pushes something else out. Particularly in engineering, where a lot of what we teach is circumscribed by the Institute of Engineers, it’s not like a science degree where you can just pick and choose what you more or less want subject to prereqs and all that sort of stuff. Every time we introduce a new course we have to look at what we’re going to toss out – it’s a real balancing act – and we’ve introduced at various times environmental, you might say, survey courses, not just to do with sustainability but just survey

courses, and they're generally pretty poorly received by the students. I mean, the students don't see that as engineering".

Academic staff member

Perhaps the most concerning finding of this research as a whole was the fact that very few interviewees (and those that did were all from the same institution) referred to any discussion or exploration within their institutions about curriculum and innovation, or the need to identify and integrate the EfS "business value add" with mandated content and staff and student capability frameworks, mapped back to individual qualifications. This is a topic of repeated discussion in Europe, the United Kingdom and the United States (refer Chapter 2), and of which some interviewees were well aware:

"In terms of the curriculum, we're a fair way behind...I went to Harvard, Tufts and Arizona State at the end of last year, and I was looking particularly at how they structure themselves around the curriculum. The extent to which they have integrated units of study versus ones bolted on the side – do your little sustainability unit and that's covered...whether they have sub-majors, whether they have degrees. Arizona State has completely structured itself around sustainability issues. It has for example a Faculty of Water. So...water is hydrology, water is power, water is irrigation, psychology of water, etc. So the States is miles ahead of us on this".

Senior executive member responsible for sustainability portfolio

Indeed, the desktop research clearly indicates that one of the institutions participating in this research has adopted a strategic approach combining competitive differentiation, business “value add”, being a model of sustainable practice (practising what is taught, teaching sustainability and transforming students); developing staff capability alongside graduate outcomes; and mapping these elements to all qualifications in the institution. However, this is only one university out of four, suggesting that the rhetoric of EfS more broadly in the sector is not always supported by a consciousness at the leadership level about the degree of innovation and renewal required – or indeed, the need for a strategic reorientation around EfS.

“I think the only thing I’d add to that is that universities in general are lagging behind on the curriculum. Now we all sit there and say ‘Sustainability’s important’ – you try and get it into the curriculum at a meaningful level, and you don’t find it that often. So if you focused somewhere, that’d be an interesting place to focus – what are we teaching our kids? What good is it to them? It’s one of my pet peeves – we love bitching and moaning about these things, but nobody actually gets off their bum and actually gets it in there – it’s too hard”.

Senior executive member responsible for sustainability portfolio

The findings from the interview transcript analysis in relation to student involvement in sustainability programs provided additional insight into the challenges to be faced in implementing sustainable practice in higher education institutions – in particular, in relation to EfS.

5.4 Student involvement in decision-making

The interview data on student involvement in decision-making around sustainability programs provided a contrast to the rhetoric portrayed in the public domain through the universities' websites. The reality is that students, and research regarding their behaviour and attitudes, have not to date been the trigger for universities to develop and implement sustainability programs. In contrast, the key "people" drivers tend to be committed senior executive staff, charged with the management of the sustainability program as part of their portfolio responsibilities, responding to changing national and international shifts in thinking and practice in relation to sustainability. They are supported by dedicated staff in various organisational units of the institution, who are often located in operational areas such as facilities management. As noted by a senior executive responsible for one of the universities' sustainability programs:

"No, we're not there yet – definitely not. This is an executive-driven program – the senior exec of the University has to drive it, we're not getting something coming back from the broader stakeholder group that says 'Hey, why don't we do this?'"

5.4.1 Student attitudes

Only one university's sustainability program appeared to have been informed by research into student attitudes and interest in relation to sustainability and the environment. Further, this research had been conducted by the university's own Communications Arts students across the entire student population, using survey methodology, and in partnership with the senior executive responsible for the sustainability portfolio. This research identified a widespread level of interest

within the student population in relation to various environmental issues. However, there was no mention of research into student attitudes towards sustainability at the other three institutions. Further, none of the other interviewees at the institution where the attitudinal research had been conducted appeared to be aware of the survey or its findings.

In-depth research on student attitudes towards sustainability was outside the scope of this research, as noted in Chapter 3. However, given the findings in following sections, broader results in the literature and also the fact that none of the other interviewees (all members of the senior management group) at the institution where this survey had been conducted were aware of the survey or its findings, the degree of purported interest by students at this institution in sustainability and the environment appears to be somewhat unusual. This is not to suggest that the survey was not undertaken in an appropriate manner. However, there may have been other factors affecting this particular survey's results. For example, given the survey topic and the fact that it was conducted by and among students and their peers, it may be that the results were affected by issues such as social desirability bias – a recognised problem in self-reported measures relating to attitudes and behaviours, and a particular problem in market research (for example, Fisher 1993; King and Bruner 1999).

“...the student body is really very, very diverse. At this campus you would have some who would be deeply interested in and committed to aspects of sustainability, particularly if they're doing an environmental course, although not all of them. I teach some aspects of the fundamental theory of greenhouse

warming, and there are some people in the class who are ‘Yes! That’s what we came here to do’, and others are going well ‘Sorry, um, I can only stay for an hour, bye’, and others just don’t come at all. Why are you doing an environment course?”

Chair, Academic Senate

“...the generation of school-leaving students are... not all that interested in sustainability issues, and their propensity to consume is shown, for example, in a thing that I’ve already written about already here, which is the amount of bloody litter that’s around the place. I mean, this is the dirtiest university I’ve ever worked in, by a long way, and most of it is fast food crap. Fag ends, you know? And that’s entirely a consumerised student body”.

Faculty Dean

5.4.2 Student commitment

Interviewees generally felt that the level of student commitment towards issues of sustainability and the environment tended to be poor, for various reasons. Several interviewees – including from the institution where students had been surveyed about their attitudes towards sustainability and the environment – stated that, in their view, genuine student commitment to issues of this kind tends to be limited to a small number of highly-committed individuals only. Others commented that, in their experience, most students tend to be focused upon immediate goals such as gaining their degree and later, employment, rather than wider issues affecting society, including sustainable practice. These results

appear to indicate that it is the experience of those developing, implementing and managing sustainability programs in these universities, that “the green student” does not have a high degree of representation within these student bodies. Even if they did, it appears that their priorities would often lie elsewhere. This view is consistent across all four institutions – again including the institution where students had previously been surveyed about issues of sustainability and the environment.

“...people don’t really appear to want to be involved. For example, students – we have tried and tried to get students involved, and what they’ve said to us is ‘Yes, all really interesting, we’re behind you 100%, but sorry, we can’t do anything because we have to do our jobs, i.e., work, to pay for our uni and then we have to do our uni work, so we don’t have time for any of this stuff’. Sydney is the world’s second least affordable city – students know it, they’re living it. So they haven’t been able to participate. We continue to work on that, we haven’t given up...”

Senior executive responsible for sustainability program

5.4.3 Student representation

Characteristics of student bodies themselves influenced the level of engagement and involvement with sustainability initiatives, and the interview data indicate that, overall, students do not currently have a high degree of impact on decision-making with regard to university sustainability programs. Cultural and socio-economic differences between student groups, in relation to attitudes towards

sustainability and the environment, were regarded as being a major contributor to the difficulty in engaging the student community in institutional sustainability programs. This was particularly the case in relation to domestic and international groups, but also between groups from different cultural backgrounds and geographic areas.

“If you’re getting students from North America and Europe, that’s one thing, and if you’re getting students from China that’s another one, if you get them from the Middle East you’ve got a whole series of other issues you’ve got to deal with...”

Senior manager responsible for facilities management

Student representatives on decision-making bodies themselves often proved to be difficult to work with. Examples provided by interviewees included student representatives not attending meetings, engaging in inappropriate lobbying of other university stakeholders and students, and displaying little ability to deal with complex ideas and data. Lack of continuity, in relation to program development between student representatives on decision-making bodies, was highlighted as a further challenge.

“What we’ve got in Australia are vocal students with a lobby desire, as opposed to a practical desire”.

Senior executive responsible for sustainability portfolio

“...it continues to surprise me, it throws them a lot, of having to come to deal with strategies for uncertainty, you know,

scenarios, toolkits, this sort of thing. Their expectation is still, well give me the data so I can do the job...and get it marked and it'll be done. So I think we've got a long way to go just in terms of students' ability to really deal with such open-ended complex situations”.

Senior manager responsible for environmental management systems

“Their commitment to it is good, but they don't really understand how things physically work within the University, and the transformational requirements to change to what they suggest...but yes, the reality of them is far from what's aimed to be achieved”.

Facilities engineer

5.4.4 Institutional responsibility for dealing with students

Varying perceptions often exist regarding which portfolio areas in universities have the responsibility (or not) for dealing with students. For example, a number of interviewees advised that student relations were the business of another part of the university and not their concern when it came to making decisions relating to sustainability initiatives.

“Yes, from a facilities perspective we're not face to face with students every day...we don't deal from a social perspective, from a teaching view, so what we do is being informed by other factors of the University in relation to what students want...we're not the champions around the place, we're pretty

much the doers... we take...advice...as to what the learning environments should look like and what they should and shouldn't have, aspects of it. That's why when I said in fact we're not face to face with the reality of what students are dealing with, because that's not our responsibility to be out there interviewing students as to what they want. We've got a whole separate University whose role that is".

Senior manager responsible for facilities management

5.4.5 Students as stakeholders

Universities often still fail to recognise and proactively engage students as key stakeholders in the university community. This includes in relation to sustainable practice and the development and implementation of organisational strategies to support sustainability programs.

"We all have to commit to engaging our students in the university's organisational life – the sustainability agenda is a powerful way to do it – because it has broad societal acceptance, it's actionable, and if that helps to provide safe space to say students are part of the story and get a cultural value going which says students should be more involved in organisational matters, I think that's fabulous. Because we don't do enough of it right now".

Senior executive responsible for community engagement

However, a number of interviewees questioned whether it is worth the time and resource investment required to continue to try and engage students with regard to sustainability initiatives – beyond those individuals who demonstrate high levels of commitment, interest and involvement in sustainability programs.

“After two years of trying to engage staff, and particularly students, I’ve given up on the idea that we need to. I think the ones who are engaged are engaged, and we will make sure there’s a place for them, and the ones who indicate that they’re interested and perhaps changing their behaviour or want to be engaged – make room for them...but the other 29,000? You can spend a lot of time and energy and crap – producing plastic crap and other things to try and engage them, which becomes landfill – which is, what do you do as part of your engagement process that’s actually sustainable?”

Senior manager responsible for marketing and communications

The interview data indicate that unsubstantiated assumptions, in relation to the concept of “the green student”, may currently play some minor role in decision-making with regard to sustainable practice in universities. However, the findings also demonstrate that, while this practice does not appear to be widespread, understandings displayed with regard to student attitudes towards issues of sustainability and the environment do not appear to be based on extensive attitudinal research, for example:

“People say ‘Well, most students would rather have that’, and I say ‘Yes, but have you actually gone and asked these students?’ and not just asked them ‘If you had a choice of this or this, which would you take?’, but ‘If you could do an MBA for half the price by doing it online, versus trotting along from work two nights a week, which one would you take?’, I suspect you’d be surprised, that people would be happy to forego turning up to a classroom. Suddenly you’ve addressed a whole lot of sustainability considerations, but it’s thinking radically differently, and I have found no interest in that when I’ve tried to raise it at various forums”.

Sustainability manager

It is, therefore, apparent that there is a real need for universities to clearly understand student attitudes in relation to sustainability and the environment as part of the development and implementation of sustainability programs. In the words of one Sustainability Manager:

“I think that sometimes within the university community they can live in a little bit of a...bubble that they are cutting edge and really the whole community think they’re woo-hoo, driving everything, and there’s a whole other world out there, things are happening, and I think they just need to be conscious of that...I think some of the unis recognise that it’s a cool thing, a market advantage to be able to say you’ve got a sustainability agenda. They see that as something that some students might be

attracted to, or it might attract funding, it's the latest, bees-knees, not a modern university unless you're doing it. I think there's a danger in that of pushing your sustainability program, instead of an evaluation and continuous improvement path, you go for marketing instead of evaluation, so you sweep a lot of things under the carpet, and there's a lot of greenwash".

This theme was echoed by a Sustainability Manager at another university:

"...and there's that whole question about, you know, everyone says Generation Y cares so much about sustainability, but do they? I mean, so many studies will say people care about this or that, and then when you go and test their behaviour they go and do the opposite. They say 'Oh yes, we care about the environment', but then when they have a choice between this toilet cleaner or that toilet cleaner, they actually pick the one that's less environmentally friendly, because it's cheaper, or they actually don't know, or they don't care when all's said and done".

Overall, the research also indicates that "the green student" does not appear to be widely represented in the student bodies of these universities, and does not have a significant impact on decision-making with regard to their collective institutional sustainability programs. At present, no evidence suggests that failure to widely engage the student body is likely to lead to future failure of these sustainability programs. More positively, it is clear that universities are in

a position to leverage the capacity of their student bodies to enhance their understanding of student attitudes, as one of the universities participating in this research has done to some extent.

The findings discussed in sections 5.2 – 5.4 illustrate the different themes and sub-themes that emerged from the manual interview transcript analysis, and serve to demonstrate to some extent the complexity of the issues that are faced by those implementing sustainability initiatives in universities. However, the anecdote presented in the next section provides a clear demonstration of the integrated nature of sustainable practice and why concepts such as capability, responsibility, innovation, strategy, accountability and governance also feature in the analysis. The issues identified in the story below highlight the research literature discussed in Chapter 2, in that perceived barriers to sustainability such as funding, staffing and resources are often indicative of deeper, more serious problems relating to leadership, change management and whether or not a “whole of institution” approach has been adopted in relation to sustainable practice.

5.5 Anecdote – embedding EfS into a postgraduate course

The story related in this case study is that of a senior academic who worked with colleagues to embed EfS into the MBA program at one of the universities that participated in this study. The senior academic’s story highlights the fact that dealing with the educational drivers alone does not determine success in embedding EfS into curriculum – the organisational drivers are an equally important set of issues that need to be dealt with.

The story also illustrates that sustainability education is not an exercise in forward momentum – as with all sustainability initiatives, there are many achievements and setbacks along the way, and one of the key challenges in working on EfS is maintaining that forward momentum.

Further, as this story highlights, regression to the “pre-EfS” state is a likely outcome if EfS initiatives are not supported by appropriate leadership and change management practices, the required level of resourcing and a strategic approach to ensuring EfS is a core component of learning and teaching.

“Now, I’d say...we’ve gone ahead and developed a strong rhetoric around sustainability, and...my first years here, I worked with X...we put a lot of stuff in the curriculum. We went through all of the major subjects in the MBA, we looked at their curricula, we negotiated individually with every coordinator of every one of those subjects – about 11 or 12 of them – to have at least one unit around sustainability applying to their area. We said to them: ‘We have the money, we have time, we have contacts’. As a strategy, for example, we said we think there’d be a place for study, say, of Company A, in the capstone MBA course in Strategy. We offered to write a case around Company A’s decision at the board level to make sustainability a core part of the business strategy...which was very controversial at the time, both within Company A and outside of Company A, and we said to the course co-ordinator: ‘We’ll do this under your direction, and so on and so forth –

you direct it, we'll give you drafts of the case, and help you analyse student feedback and rewrite the unit with your help if necessary'. I believe that's still being taught as a capstone unit in business strategy. But I must say, this seemed almost a no-brainer by the time it was taught because just about that time Company A won the Project B tender...and a whole lot of other stuff across Europe, partly on the basis of their commitment to sustainability and their record. They're very open about the fact that they're still anything but sustainable, and they talk publicly about it, and what they're trying to do to improve it".

"So we did that in 11 subjects across the MBA, working with coordinators. Every course had to be individually contracted with each individual coordinator and negotiated with them. It took a huge amount of time and effort. We were successful with getting sustainability into I think all the courses where we tried except one. But to be honest, coordinators move on, new people come in and teach subjects, the history's forgotten, people come in with new ideas, there is no money for maintenance, so a large part of what was achieved has decayed. We're just doing a survey at the moment about what's left, and our new Dean has asked me to work with one of our lecturers who's very interested in sustainability, to try and keep a holding pattern if you like for what we could rescue and do to maintain the sustainability units while advertised a position for a Chair in Sustainability. The idea would be the new professor in

sustainability would come in and be the champion. But at the moment...there is no champion with the prestige to actually keep it all going – it required an incredible amount of energy to establish the courses, doing that whole project was like wading through mud. It's not as though there was active opposition, it's just that everybody is so busy, heads down and backsides up, and this is not high on most people's agenda. Now there are outstanding exceptions to that – people who came to us and said 'This is what we want to do, how can we do it?', and there still are, around the place, but that's where we are. In my speciality in organisational change, I used to be concerned about how do you make transformational change – I know how to do that now, but now I'm much more concerned about how do you maintain it, and keep it going, keep the transformation moving, keep the momentum going, and that's a much harder problem. So that's on the curriculum side, right?"

"So I'm just about to go with [*Senior Executive Member*] to the Vice-Chancellor and say: 'Vice Chancellor, where is the drive on the curriculum side, from the top?' I mean, if you just take the...School, at the time we...were definitely the leading school in Australia in terms of sustainability in the curriculum – we're now no longer the leading school. I was talking yesterday to a couple of university directors of MBA programs, and a number of them are actually formulating sustainability as a core element of their curriculum, and we've lost that. So I'm going to say

‘Where is the push’ – I’ve talked to the head of the Academic Board, and we’re trying to get a pincer movement from the Academic Board and these people to try and really get some top-down push through to meet the bottom-up enthusiasm that is developing now”.

“What I’ve put on the agenda...is...the Deans, Heads of School and so on to all have key performance indicators around incorporating sustainability into the curriculum, and they need to report on those...what I’m going to say is ‘Look, we’re preparing people for organisations, and our graduates go out to those organisations and right now they have to be retrained by their employers to tackle sustainability issues. They don’t come from their MBA, for example, with an understanding and the knowledge of sustainability, and those organisations are streaming ahead of us’. However, bit by bit, what now seems to me to be happening is things are starting to lock into each other – I wouldn’t have said that two years ago – and maybe I’m kidding myself, but I think it’s like the Berlin Wall. At some point, all this stuff’s happening, largely unseen, then there’s a change of consciousness and practice, and at some point or other, it all hits you, and it locks in, and it achieves a momentum. I’m hoping that’s the case”.

“That’s how the old frame imposes itself on the new person who’s got a new frame, who’s struggling to do something

different, but it's not working at the moment when they're very new. Somebody experienced in the old frame comes along and says 'This is how it works', and so that's where we all are basically".

"I think many academics are engaged primarily with their profession – they're not engaged very often with their department or their school, or their faculty or the University. I really despair, you know? I'm not even sure how to describe the culture of universities – it's supposedly collegiality. Well, what that means is basically if you try and do something different, even if it doesn't affect me, I'll still try to beat you to death, in case it might just impinge on my interests or because I don't understand it, and I don't want you to get any credit for something. We're all struggling to compete with each other, and I think there's something about the training of academics – we're taught to take an article, tear it apart, and I often see universities as quite vicious environments where people have been taught to be constantly critical – as a scientific attitude. They transfer that critical attitude to each other – you know, its one thing to be critical of somebody's work, it's another thing to be critical of the person themselves, and they don't make that distinction very often. I have experienced in my career more harsh, really personal attacks from colleagues than I have received elsewhere, and that I've seen others receive elsewhere. I mean I've seen some other organisations that are probably as

bad, personally very destructive and so on, but universities pretty much are like that a lot of the time. Usually the best and brightest are looking after their careers, and the best and the brightest often don't end up in management, and then they're contemptuous of the people who do take it on. As is the case in business schools, we teach administration and management, but we often don't respect the people who do it in universities – we often don't even respect managers out there in the world either, we're pretty scathing about them too. But anyway, I think there's a chaotic character in the cultures of universities – in fact, the cultures are so attenuated it's sometimes hard to talk of them as cultures, because there's no sense of corporate identity. I'm on the University of X payroll – so what does that mean? The university exists as a fiction in the minds of the community but in reality it's a collection of individuals who on the whole don't relate to each other and often don't even talk to each other”.

“But coming back to your original question, I just think, if I look at my colleagues, social scientists or whatever, they're working to career paths that are narrowly defined, to reward structures that, you know, getting the papers out, in the top journals, which are extremely conservative and American-controlled mostly, and that's what they think about. It's frightening actually. I ran an exercise with someone's MBA students in sustainability, so the first thing I did was ask the

students to just note down when they thought about the future, were they typically thinking a day ahead, a week ahead, two weeks ahead, up to a century ahead. Then I got them all to stand up and line up down the side, then negotiate with each other where they should be, from tomorrow to 100 years' time. It was very crowded towards tomorrow, and I think there was one woman in the room who was thinking 50 years ahead, she claimed, but most of them were just thinking about earning the money, the next step in their career, raising their kids, paying the mortgage. That's life, right, but it isn't good enough!"

5.6 Implications and links to first-level assessment – Sustainability Phase Model (Benn, Dunphy and Perrott [2011])

The first-level assessment of the universities' sustainability programs using Benn, Dunphy and Perrott's (2011) Sustainability Phase Model (refer section 4.3, Chapter 4, p.159) demonstrated that universities A, B, C and F were largely operating at Phase Four of the model – Efficiency, or the "Industrious Stewards". At this level, the prevailing theme is to "do more with less". This was reflected in the universities' historical focus on environmental initiatives and resource efficiency (refer Figure 3), with efforts to adopt a more strategic, "whole of institution" approach to sustainable practice (including the integration of EfS with learning, teaching and graduate capability strategies) only emerging in recent years.

The findings of the manual analysis of the interview transcripts tend to support the first-level assessment of the participants' sustainability programs conducted

using the evidence gathered during the desktop research. That is, the universities do not yet appear to have developed their efforts in sustainable practice to comprehensively embrace the typical actions of Stage Five “Proactive Strategists” (with the exception of University A, which can be described as aspiring to Stage Five – refer section 4.3.1, Chapter 4, p.160). These include recognising the strategic potential of sustainability and repositioning the organisation within this context; building organisation-wide stakeholder support (including staff and students); and targeting opportunities for new revenue and market share.

5.7 Conclusion

The manual content analysis of the interview findings revealed a number of themes, sub-themes and concepts relating to sustainability program development and implementation. These included the effects of higher education leadership and change management practices; student attitudes towards and involvement with sustainability programs; the specific issue of EfS and how this is integrated with core business of learning and teaching; business strategy as it pertains to sustainability; the concept of what is a modern, sustainable university and how sustainability characterises this conceptualisation; and the nature of the working environment in universities and how this affects institutional and individual efforts to achieve organisational transformation.

A key finding of the interview transcript analysis was that, while the implementation of sustainability programs currently tends to be an exercise driven by staff, issues such as responsibility, accountability, citizenship, collaboration and capability are applicable to both staff and students. That is,

rather than sustainability programs continuing to be conceptualised in terms of what staff identify as being appropriate *for* students, perhaps (and in accordance with the more advanced phases of Benn, Dunphy and Perrott's [2011] model), sustainability programs could be conceptualised in terms of what *staff and students together* identify as being important within a whole-of-organisation approach to sustainable practice. Central to this type of stakeholder-based approach to sustainable practice is ensuring that students are genuinely involved in the life of the university as organisational citizens, and that students consequently understand that how sustainability is embedded in the organisation is a shared responsibility.

Interview findings were also subject to analysis using Leximancer (refer Chapter 6) to further explore themes and concepts, and the relationships between them.

CHAPTER 6 – PHASE 2: LEXIMANCER INTERVIEW ANALYSIS

This chapter presents the results of the Leximancer analysis undertaken on the interview transcripts. The analysis was undertaken by creating analytical packages in relation to each question asked during the interview from interviewees' transcripts (refer the interview protocol included at Appendix 4 and also refer Chapter 3, p.117). Analytical packages were created for each university individually, and also the four universities as a group, for each interview question. When running the analysis in Leximancer, automatic settings were used for concepts and text processing in order to avoid placing an arbitrary limit on the number of concepts that might be generated during the analysis. In examining the results, concept visibility was set at 100% in order to view all concepts associated with identified themes.

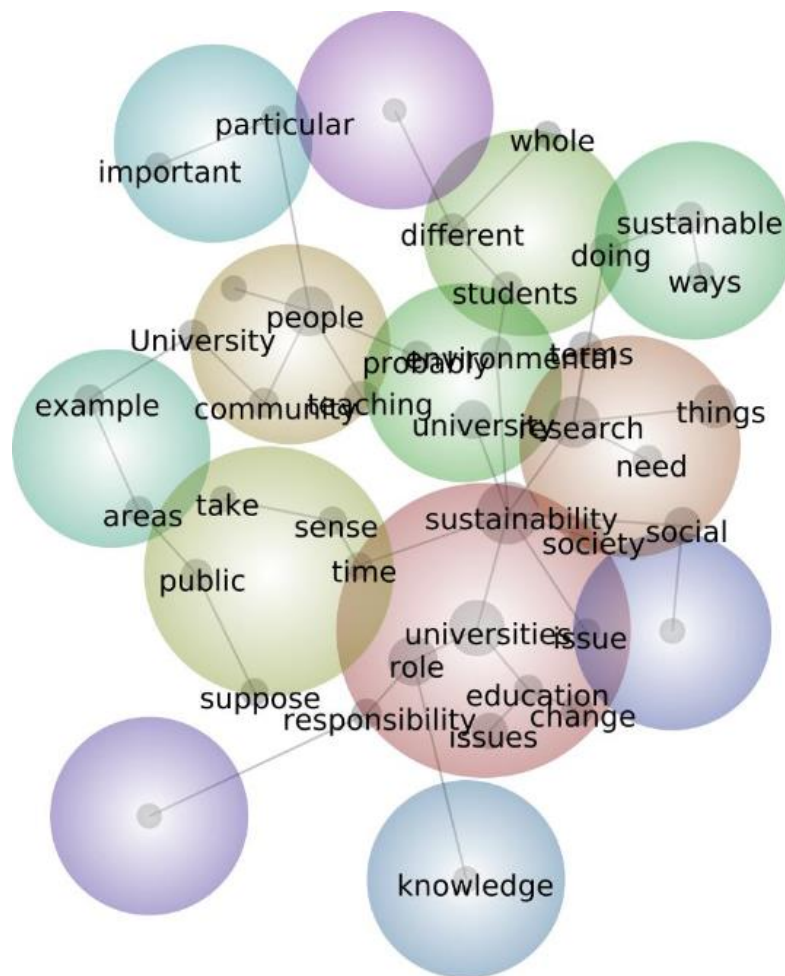
This process enabled the identification of themes and concepts that were most relevant to the topics under discussion during interviews (for example, the possible roles and responsibilities of universities in a sustainable society; interviewees' understanding and awareness of their institution's sustainability program; and the nature of the factors affecting sustainability programs). This process also enabled a validation check to be undertaken on the findings of the manual interview transcript analysis, and detailed exploration of the relationships between different factors affecting sustainability programs and their intensity of their effects (refer section 3.7.2, Chapter 3, p.114).

The findings are presented in the form of thematic summaries and concepts maps as they relate to the questions listed in the interview protocol.

6.1 The role and responsibilities of universities in sustainable societies

“Sustainability” was the most important theme identified in the combined text for the four universities regarding the role and responsibilities of universities in a sustainable society. The themes of “Research” (68%) and “People” (45%) were the most relevant in this context. Figure 5 depicts the primary themes and concepts relating to the role and responsibilities of universities in a sustainable society. Table 8 refines these findings to list the key concepts related to these primary themes.

Figure 5: Primary themes – the role and responsibilities of universities in sustainable societies (all universities)¹



¹ Leximancer-generated output. Decreasing concept visibility removes labels at the figure periphery only.

Table 8: Primary themes and related concepts – the role and responsibilities of universities in sustainable societies (all universities)

Primary Themes and Relevance	Key Concepts
Sustainability (100%)	Sustainability, universities, role, issues, change
Research (68%)	Research, social, society, need
People (45%)	People, teaching

Figure 5 and Table 8 illustrate that concepts of “Change”, “Education”, “Teaching”, “Research” and the “Needs” of society are relevant to the role and responsibilities of universities in sustainable societies. This suggests the importance of the contribution of research and teaching activity to creating more sustainable ways of living and working. However, the importance of these concepts varied between the four universities when analysed separately (refer Table 9).

“People” was the most important theme for University A, with “Sustainability” (48%) and “Important” (45%) the next most relevant themes. Key concepts relevant to these themes included “Role”, “Responsibility”, “Research” and “Community” (refer Table 9). This underlines University A’s focus on equipping graduates with the skills and knowledge required to work effectively within the sustainability context in different industrial and professional settings, and the contribution of education more generally to linking sustainable practice and the wider social good.

Similarly, at University F the themes of “Sustainability”, “People” and “Universities” were most important, commensurate with University F’s attempts

to adopt a more community-oriented approach to its sustainability portfolio (for example, via transport strategies) and emergent attempts to integrate sustainability into its learning and teaching strategies. Key associated concepts included “Community”, “Society” and “Learning” (refer Table 9).

In contrast, “Research” (100%), “Sustainability” (56%) and “Teaching” (29%) were more relevant at University C. Similar results were noted for University B – “Sustainability (100%), “Universities” (97%) and “Research” (51%). These findings illustrate the focus at these two institutions on how research is critical to achieving a greater understanding of how more sustainable lifestyles and, therefore, wider societal transition may be achieved. In this context, connections between learning and teaching, and sustainability, are viewed as “flow on” benefits from precursor research activity.

Collectively, these results indicate that universities are regarded by interviewees as having critical roles and responsibilities within the context of a sustainable society in relation to teaching and research, and how these activities can inform more sustainable ways of living and working. These activities are not just concerned with students and graduates, but with the broader community as a whole. Exploration of the text associated with key concepts revealed that interviewees generally regarded universities as having the potential to be models of, and advocates for, sustainable practice – including the central role of sustainable practice in the formulation of the identity of the modern university. However, there was also a need to understand what interviewees thought about their own institutional sustainability programs.

Table 9: Primary themes and key concepts – the role and responsibilities of universities in sustainable societies (individual universities)

Institution	Primary Themes and Relevance	Key Concepts
University A	<ul style="list-style-type: none"> • People (100%) • Sustainability (68%) • Important (45%) 	<ul style="list-style-type: none"> • People, young, universities, role, responsibility • Sustainability, effective • Important, research, university, community
University B	<ul style="list-style-type: none"> • Sustainability (100%) • Universities (97%) • Research (51%) 	<ul style="list-style-type: none"> • Sustainability, social • Universities, education, society, change • Research
University C	<ul style="list-style-type: none"> • Research (100%) • Sustainability (56%) • Teaching (29%) 	<ul style="list-style-type: none"> • Research, universities, teaching • Sustainability, society • Teaching, people
University F	<ul style="list-style-type: none"> • People (100%) • Sustainability (100%) • Universities (81%) 	<ul style="list-style-type: none"> • People, public, community • Sustainability, learning, social • Universities, society

6.2 Interviewee understanding of sustainability programs, their success and critical mass

The analysis indicated that the four universities' sustainability programs were historically oriented to concepts of environmental sustainability, with "Energy", "Water" and "Buildings" identified as key concepts (refer Table 10).

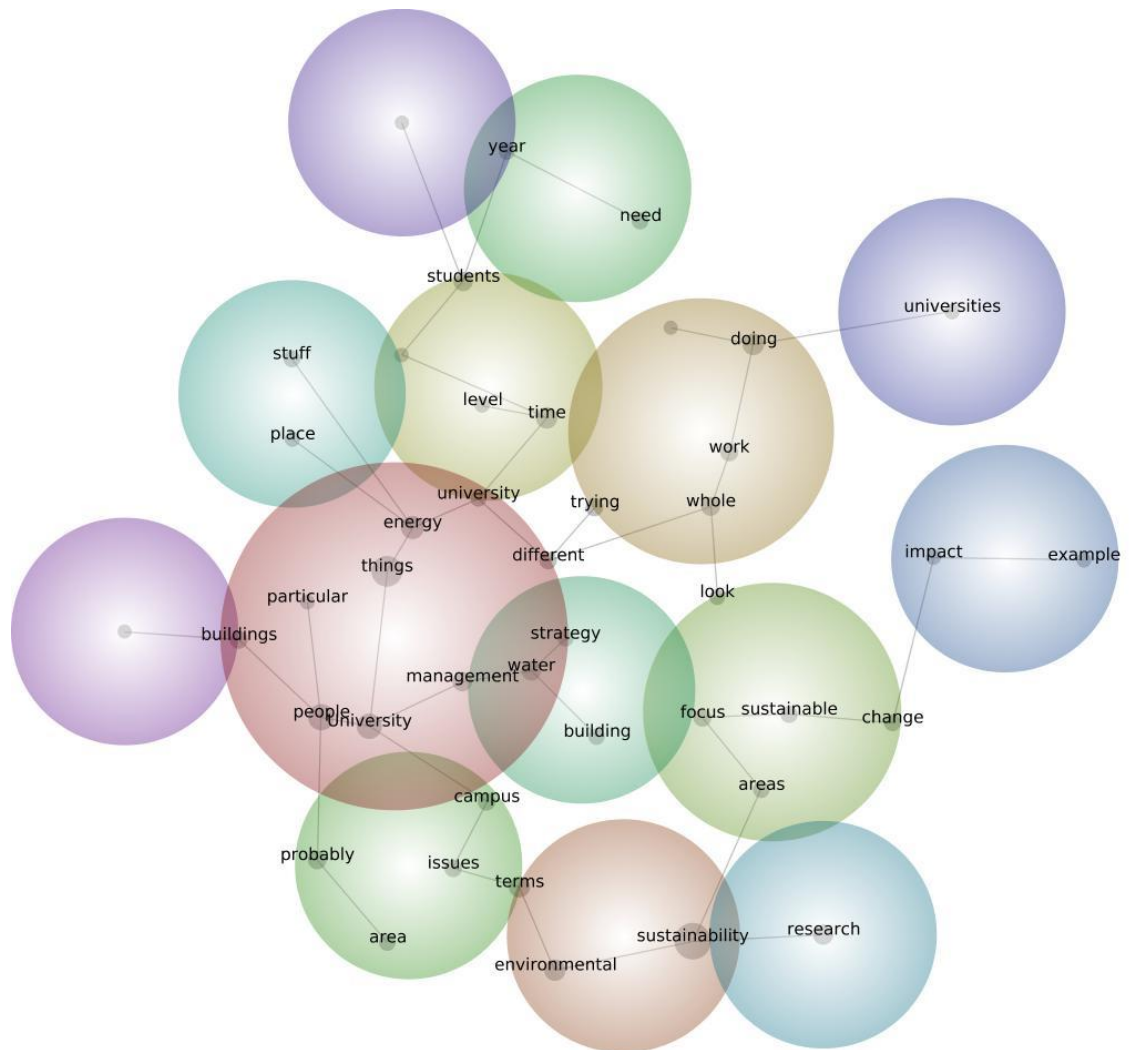
Table 10: Primary themes and related concepts – interviewee understanding of sustainability programs (all universities)

Primary Themes and Relevance	Key Concepts
Things (100%)	People, university, energy, water, management, buildings
Sustainability (48%)	Sustainability, environmental

The most important theme was "Things", with examination of the text accompanying this theme noting the repeated use of phrases such as "these things" by interviewees to describe an understanding of sustainable practice as being a collection of initiatives and activities ranging across economic, environmental and educational concerns (the theme "Sustainability" was the next most relevant theme, at 48%). Exploration of the text accompanying these themes and concepts indicated interviewees tended to focus on issues of infrastructure, landscapes and utilities management; and that sustainability programs had not been stable over time in terms of implementation. This lack of vocabulary around sustainability at the senior level in the universities was interesting, given that at this level of organisational responsibility it could reasonably be expected that a more advanced level of sustainability literacy would be evident.

Despite what appears to be a largely operational focus, the data also indicates that interviewees regarded “Management” and “Strategy” as important concepts in their sustainability programs (refer Figure 6).

Figure 6: Primary themes – interviewee understanding of sustainability programs (all participants)²



Exploration of the accompanying text identified an understanding across the four universities that issues of governance, change, strategy, decision-making and implementation frameworks are embedded elements of their sustainability programs; and commonly identified as challenges associated with implementing

² Ibid.

sustainable practice in a context where sustainability itself is a highly contestable concept. Together, these results indicated that there was an understanding by interviewees that sustainability is concerned with much more than simply “going green”.

For the purposes of this research, successful implementation of sustainable practice in universities was defined as sustainability being embedded across all areas of core business on a day-to-day basis (refer Chapter 2). Exploration of the text accompanying identified themes and concepts indicated that, according to this definition, interviewees regarded sustainability programs as being variously successful. For example, areas such as research and campus operations were viewed as having been more successful than attempts to embed EfS. Further, that achievement in sustainable practice was still largely reliant on pockets of dedicated staff in various parts of the institution – programs had not progressed to a stage where sustainability was accepted (or managed) as part of core workforce responsibility across the organisation.

Further, because of this diffuse but patchy approach to sustainability, there was a risk that many initiatives were likely to be individual or small-group projects lacking in consistency in terms of implementation. Another risk identified by interviewees was that of projects being largely symbolic in nature, rather than being designed to result in change to the university’s business model and processes over time. Conversely, the analysis also identified the risk of the institution itself not being fully aware of the scope of sustainability activity across its core business areas, meaning that it was likely that the universities were, in fact, underestimating to some degree the extent to which sustainable

practices were being activated in different ways across the organisation. Concepts of success had lower relevance to other concepts such as “Sustainability” (33%) when investigated across the four universities, and ranged from 57% relative importance at University A to 40% at University C. “Success” was not identified as a concept in the analyses for universities B and F.

While an environmental theme was also prominent for each of the universities on an individual basis, slightly different themes emerged from the discussion with interviewees at each institution that reflect the findings of the both the desktop research and the manual interview analyses. For example, “Sustainability” was the most important theme at universities A and B (100%), which reflects their respective strategies of adopting a whole-of-institution approach to sustainable practice (with University A being more advanced in this regard). “People” (100%) and “Energy” (80%) were the most important themes at University C; similarly, “University” (100%) and “Things” (67%) at University F. Key concepts associated with these primary themes are presented in Table 11. In particular, these concepts highlight the more environmental/facilities-based focus of the sustainability programs at universities C and F (as also illustrated by the desktop research evidence presented in Chapter 4, and the first-level assessment undertaken using Benn, Dunphy and Perrott’s [2011] Sustainability Phase Model presented in Chapter 5).

None of the participating universities were regarded by interviewees, therefore, as having successfully implemented sustainability as part of core business on a

day-to-day basis. However, there was agreement across the four universities that staff awareness about sustainability itself had certainly increased in recent years.

6.3 Internal factors affecting sustainability programs

The findings relating to interviewees' views on internal factors affecting sustainability programs revealed common relevant themes such as "Campus", "Buildings", "People", "Management", "Energy" and "Funding" across the four universities. Key concepts such as "People", "Sustainability", "Students" and "Campus" were also commonly identified in each university's results. Figure 7 compares key concepts across the four universities.

Figure 7: Comparison of key concepts relating to internal factors affecting sustainability programs across the four universities

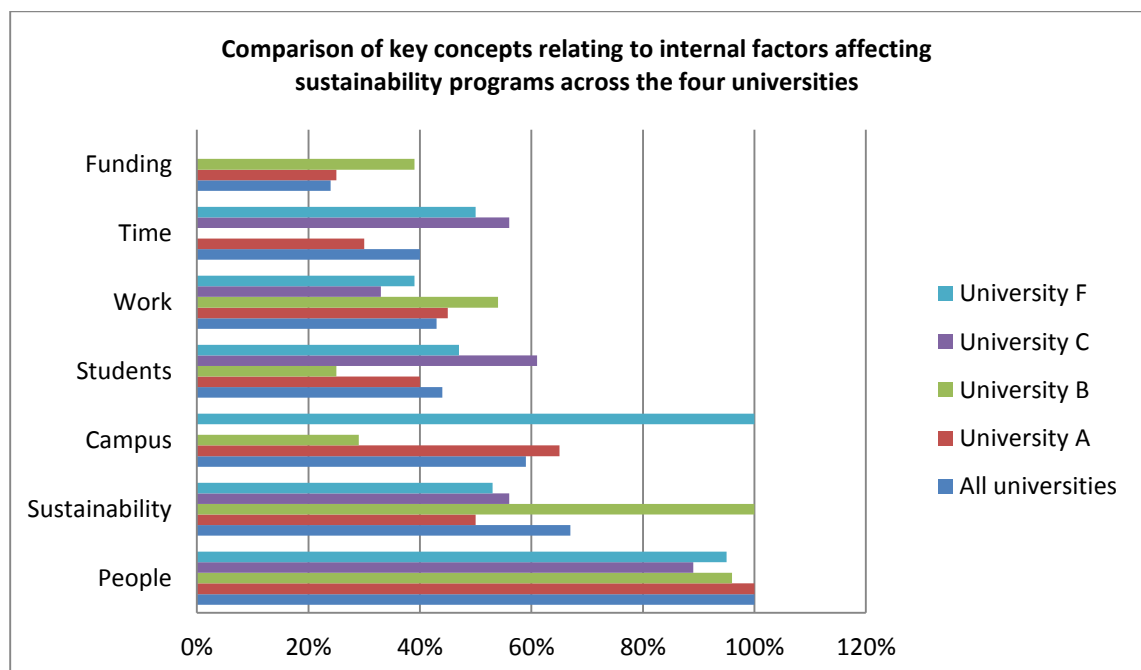


Table 11: Primary themes and key concepts – interviewee understanding of sustainability programs (individual universities)

Institution	Primary Themes and Relevance	Key Concepts
University A	<ul style="list-style-type: none"> • Sustainability (100%) • Environmental (76%) 	<ul style="list-style-type: none"> • Sustainability, social, curriculum • Environmental
University B	<ul style="list-style-type: none"> • Sustainability (100%) • Strategy (38%) • Things (32%) 	<ul style="list-style-type: none"> • Sustainability, people • Strategy • Environmental, water
University C	<ul style="list-style-type: none"> • People (100%) • Energy (80%) • Focus (74%) 	<ul style="list-style-type: none"> • People, building • Energy, student, water, governance • Focus, practical
University F	<ul style="list-style-type: none"> • University (100%) • Things (67%) • People (51%) 	<ul style="list-style-type: none"> • University, management, water, policy, campus • Things, energy, buildings • People, environmental

Exploration of the text accompanying these concepts identified the following issues as being particular challenges for interviewees at the four universities:

- Lack of funding and resourcing (for example, staff);
- Short-term planning cycles, and fragmentation of planning around sustainability programs (for example, split responsibilities for planning across operating units responsible for facilities and sustainability);
- Ageing infrastructure;
- A lack of planning to establish desired goals and intended outcomes, and how those goals and outcomes will be measured and reported upon;
- The siloed nature of university structures, and associated issues such as duplication of process and operational inefficiencies. This siloed structure affects infrastructure management as well, with constant tension between the differential impact of sustainability initiatives on different parts of campuses, and the need for campus-wide projects to be integrated around issues such as shared utilities services, most of which are often hidden from view (for example, underground pipes and cabling concealed behind ceiling and wall panels);
- Failure to establish clear communication pathways to all stakeholders in the organisation, that link a defined institutional perspective with the context of local business units;
- A lack of interest from and/or appeal to students, with international student disinterest perceived as being more pronounced than that of domestic students.

However, examination of the relationships between these individual factors indicated that they are, in reality, symptoms of much deeper issues affecting

sustainability programs. These issues are more closely related to how universities are governed and managed, and concepts of the nature of work in these organisations:

- Failure to conceptualise sustainable practice as primarily an issue of change, renewal and regeneration, with the result that sustainability is not a cultural norm in universities. This was associated with comments regarding the difficulty of implementing any kind of change in the university environment, coupled with the need for behavioural change management;
- The need for multiple layers of ability to lead and manage to achieve successful outcomes (and not only for sustainability initiatives). An associated concept specifically in relation to sustainable practice was the need for those responsible for sustainability programs to have a range of skills and capabilities beyond understanding how to “go green”, including financial and risk management;
- Failure to understand that sustainable practice has a strong association with financial and reputational risk in particular, both positive and negative;
- The need to move beyond communication strategies (often focused on awareness-raising) and into more complex practices of influence and infiltration/permeation to change behaviour.

Specifically in terms of internal stakeholder participation (i.e. staff and students), communication/engagement strategies and the pressures of modern life (for example, staff workload and the need for students to earn a living) were identified as key concepts perceived as affecting staff and student involvement

in sustainability programs. However, it is possible that, again, these are symptomatic of deeper problems associated with culture and change capability relating to sustainable practice in universities.

6.4 External factors affecting sustainability programs

Rather surprisingly, examination of interviewees' responses regarding external factors affecting the universities' sustainability programs illustrated a similar pattern of results to those expressed in relation to internal factors. At first glance, this could be taken to suggest that the interviewees were not aware of external issues and, therefore, not taking these into account in relation to the management and implementation of sustainability programs. However, more detailed exploration of the text and concepts associated with identified themes (refer Table 12) revealed a high level of awareness about societal and sectoral factors that affect sustainability programs in universities, but also some degree of ignorance or apathy about the potential influence of the university sector that continues to remain untapped in relation to sustainable practice in Australia.

Interestingly, compliance with environmental legislation was not regarded by interviewees as a major factor affecting the management of sustainability programs. In contrast:

- Lack of government funding – and particularly a lack of higher education funding explicitly tied to embedding sustainable practice in universities – was regarded as a key problem itself, but also reflective of the lack of real commitment to sustainability by state and federal governments in Australia.

Table 12: Primary themes and key concepts – external factors affecting sustainability programs (individual universities)

Institution	Primary Themes and Relevance	Key Concepts
All universities	<ul style="list-style-type: none"> • Things (100%) • Sustainability (89%) • Campus (76%) 	<ul style="list-style-type: none"> • Things, research, example • Sustainability, university, funding, environmental • Campus, work, change
University A	<ul style="list-style-type: none"> • Sustainability (100%) • Universities (68%) • Australia (67%) • Things (63%) 	<ul style="list-style-type: none"> • Sustainability, university • Universities, example • Australia, Australian • Things, research
University B	<ul style="list-style-type: none"> • People (100%) • Things (73%) • Universities (45%) • Students (45%) 	<ul style="list-style-type: none"> • People, work • Things, campus • Universities, involved • Students, communities
University C	<ul style="list-style-type: none"> • Work (100%) • Million (88%) • Sustainability (62%) 	<ul style="list-style-type: none"> • Work, plan, • Million, things, university • Sustainability, research
University F	<ul style="list-style-type: none"> • University (100%) • Campus (99%) • Time (51%) • Things (77%) 	<ul style="list-style-type: none"> • University, different, sustainability • Campus, building • Time, environmental • Things, energy, work

Examples include:

- The fact that external government funding usually takes the form of short-term grants (one – three years). This often conflicts with organisational attempts to initiate projects that may need to operate over five, 10 or 20 years, and was highlighted by University C as a particular problem. Under these kinds of funding arrangements, universities simply have no guarantee that they will be able to meet all the costs of strategic projects;
- University A's concerns regarding the lack of consistency in approach by different government departments and the inefficient nature of government approvals processes.
- Transport and location were flagged by all interviewees as a challenge in implementing sustainability initiatives. Even where campuses are located in areas close to public transport, perceptions of the cost and unreliability of these services were reported as impediments to reducing vehicular access to sites by staff and students. Campuses poorly serviced (or not at all) by public transport face even greater challenges in implementing initiatives designed to reduce vehicle use.

Wider Australian societal attitudes featured as a key issue strongly related to the tendency for universities to focus on internal sustainability initiatives. For example:

- The Australian political landscape is geared towards leveraging the issues that are regarded as “vote winners”, such as the economy and asylum seekers. The environment/sustainability are not regarded as vote winners in Australian politics;

- In relation to community perceptions about global warming, climate change and other environmental problems, interviewees' views, as captured by one senior executive, were that:

“While people are essentially proactive and willing to do the right things...[there is a] lack of education, and ignorance, about the real issues...[which is not helped by] how the country is run”.

In particular, University F interviewees highlighted the problem of current generations of students having lived their entire lives without any concept of economic boundaries. This, in turn, contributes to a general lack of understanding about the concept of boundaries to living systems and resource availability; and an inability to intellectually connect concepts of standards of living and how planetary systems support these.

The failure of the university sector itself to take the lead on sustainable practice in education by grouping together and creating a strong lobbying base was highlighted by interviewees as a key reason why the sector itself continues to lag behind industry/corporate practice. Universities Australia, the representative body for universities, has not developed any policy in this area in recent years; does not advocate or lobby for sustainability as a core element of higher education (operationally or educationally); and was regarded by interviewees as continually promoting division rather than collegiality in the Australian higher education sector.

Related to this is the fact that sustainability is not regarded as a defining characteristic of a high quality university with international scope, along with a general lack of support by industry and the corporate world for universities in general.

While these issues are important, interviewees were often critical of how universities treat students in the modern higher education environment. Interviewees from University B, in particular, highlighted the lack of a strong tradition of treating students as stakeholders of the organisation and as part of the business enterprise, and not encouraging them to be involved in public issues. Interviewees felt that universities are now so focused on obtaining funding to undertake various activities they are losing sight of their purpose and the contribution they should be making to society. As noted by one senior executive member:

“With the emphasis on the vocational side of higher education, we no longer prepare students to see university as a place to broaden their mind, explore public issues or community change...the intense focus on a career as the outcome has given students little, if any, incentive to get involved in the university, to think about the university as an organisation of which they are a member, and an organisation they have the power to influence”.

However, the associated text also noted several comments from interviewees regarding a lack of student interest in sustainability (particularly international students), and a tendency to attribute this to failure by government and society

more broadly to prioritise environmental concerns. Moreover, exploration of the text also indicated that universities do not seem to understand that external factors such as the influence of government and society on student attitudes, and their own failure to engage students in a meaningful way within the organisation, are likely to combine to exert a significant degree of negative influence on student pro-environmental behaviour. There appears to be a lack of understanding by respondent universities that, if indeed they did engage students in a more genuine manner around issues of organisational citizenship and sustainable practice, they may be able to counter to some degree the effects of opposing influences elsewhere.

6.5 Stakeholder participation

Analysis of the transcript data with regard to internal stakeholder participation with universities around sustainability initiatives was inconclusive for universities B, C and F – no particularly relevant themes or concepts emerged from the analysis.

In contrast, the findings for University A highlighted the theme of “Areas” as being the most relevant at 100%, with key associated concepts relating to “People”, “Change” and “Time”. “Students” (62%) and “Engagement” (42%) were also identified as relevant themes in relation to internal stakeholder participation (refer Figure 8). Exploration of the text associated with these themes and concepts at University A indicated that time availability is often cited as a primary reason affecting staff participation in sustainability programs. Time was also identified by interviewees as a key reason affecting student participation, often due to students attempting to balance work and study

(insufficient data was available via University F interviewees to enable Leximancer to draw conclusive results) (refer Table 13).

Exploration of the text associated with the themes and concepts identified for each university revealed three different approaches to external stakeholders:

1. University A was more concerned with what type of external stakeholders the institution itself chooses to engage with. This relates to issues of reputation and image in relation to sustainable practice (i.e. ensuring that the university engages in partnerships with reputable organisations);
2. University B's approach to external stakeholders was more broadly focused on local communities and schools. Exploration of the text associated with the findings for University B also revealed a pronounced focus on engagement initiatives associated with water resource management, and accompanying research programs;
3. University C had a narrower focus in relation to external stakeholders, with its engagement efforts appearing to be more concerned with those stakeholders directly aligned to its research programs dealing with issues of environmental management and sustainable practice.

Further exploration of the associated text confirmed that the universities were involved in significant projects with major external stakeholders relating to large-scale research investigation, and that:

- Disinterest (or differing agendas), misunderstanding and/or lack of clarity around intended outcomes and conflicting institutional cultures

are all issues that affect external stakeholder engagement with universities;

- The size of universities and the dispersed nature of their campuses is often perceived as meaning that a university partnership is “serious” and “credible”; and
- Engagement with smaller organisations such as schools, community groups, small-medium enterprise and local government is regarded as much more difficult than engagement with major partners on large projects. This is the most serious impediment to the universities’ realisation of aspirational goals to be “sustainability hubs” in their surrounding communities.

The internal and external stakeholder participation data illustrate the extent to which university cultures and how they operate are far from being matters of concern to internal stakeholders alone. A number of interviewees highlighted the issues:

“...they have no idea how to approach us. The biggest barrier is the university as a cultural icon...a mystery to non-academic people, and to the ordinary citizen, they have no idea how to approach and to be involved”.

Senior executive member

Table 13: Primary themes and key concepts – external stakeholder participation in sustainability programs (universities A, B and C)

Institution	Primary Themes and Relevance	Key Concepts
University A	<ul style="list-style-type: none"> • Things (100%) • Sustainability (98%) • People (87%) 	<ul style="list-style-type: none"> • Things, money • Sustainability, quality, university • People, time, work
University B	<ul style="list-style-type: none"> • Things (100%) • Work (34%) • People (21%) 	<ul style="list-style-type: none"> • Things, water, research, campus, internal, example • Work, local, community, schools • People
University C	<ul style="list-style-type: none"> • Sustainability (100%) • Research (19%) 	<ul style="list-style-type: none"> • Sustainability, university, greenhouse, work • Research

“Generally, people are quite interested in being involved with the university, it’s usually us pushing back and saying sorry, we’re busy, if anything”.

Sustainability manager

“...need to be seen more as an organisational citizen in the community”.

Facilities manager

It is possible that, again, failure to embed sustainability as a cultural norm in universities, while proving to be a factor affecting internal engagement with sustainable practice, may also be an issue in external engagement as well. However, the responses from interviewees indicate that this does not appear to be confined to sustainability initiatives, and the concept data illustrates that how universities present themselves in a more general sense to their surrounding communities is impeding more meaningful engagement with local organisations.

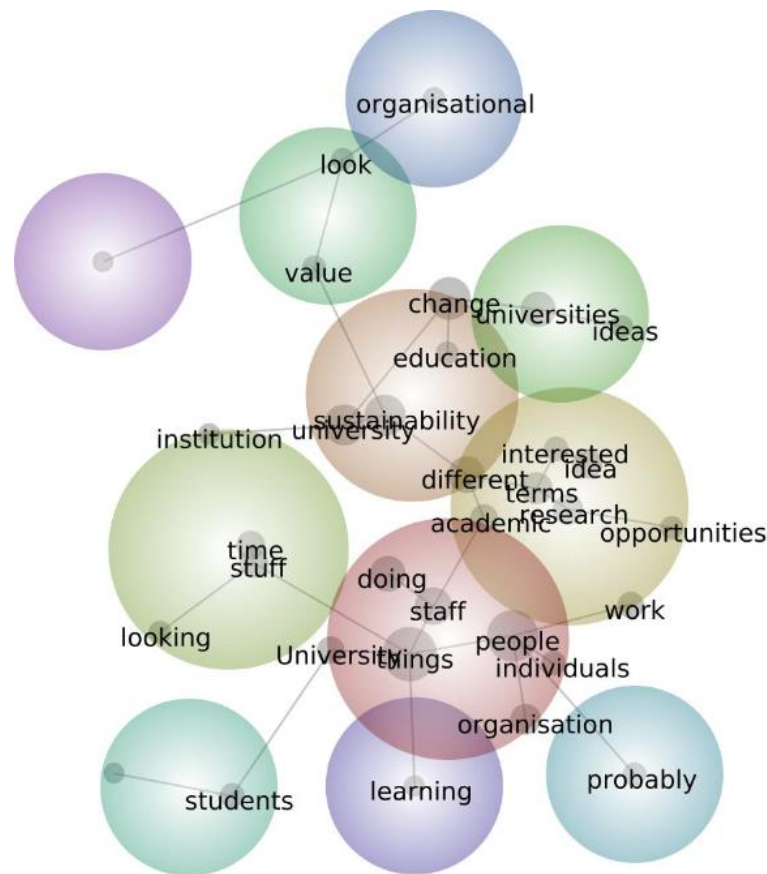
6.6 Change management

The theme of “Change” was identified in the Leximancer analysis as being relevant both across all four universities (73%), and for each university, indicating that interviewees agreed that management and implementation of sustainability programs is a challenge for universities in terms of their change management practices (refer Figure 9 and Table 14).

Table 14: Primary themes and key concepts – sustainability programs and change management (individual universities)

Institution	Primary Themes and Relevance	Key Concepts
University A	<ul style="list-style-type: none"> • People (100%) • Things (36%) • Cost (31%) 	<ul style="list-style-type: none"> • People, change • Things, whole • Cost, education
University B	<ul style="list-style-type: none"> • Things (100%) • Change (70%) 	<ul style="list-style-type: none"> • Things, people, staff, organisation, university • Change
University C	<ul style="list-style-type: none"> • Change (100%) • People (45%) • Sustainability (38%) 	<ul style="list-style-type: none"> • Change, staff, process, research • People, universities • Sustainability
University F	<ul style="list-style-type: none"> • Things (100%) • Universities (50%) • Change (46%) • Sustainability (35%) 	<ul style="list-style-type: none"> • Things, people, staff, university • Universities, research • Change, university • Sustainability, idea, academic

Figure 9: Primary themes – sustainability programs and change management (all universities)⁴



Analysis of the text accompanying the concept data indicated that interviewees do not feel that current models of change management in universities align with sustainable practice, for two main reasons:

1. **Structural:** previous research (refer Chapter 2) has consistently noted the siloed nature of universities and the particular challenge this poses to those attempting to implement sustainability programs, especially with regard to governance and decision-making.

As one sustainability manager commented:

⁴ Ibid.

“I don’t think that universities are incredibly good at change management...and I would say the same thing about sustainability...it’s because of the way universities are set up. They’re almost internally competing against themselves, and they operate within faculties, so you end up with a silo of how things get run...typically what would happen is a decision would get made at a faculty level or a dean’s level, and be implemented, and then someone would try and work out where that decision came from, and no-one would know”.

2. Cultural: however, unlike previous research, these results illustrate that cultural siloes are equally significant as structural siloes, and that the interaction between the two contributes to the internal competition that is characteristic of universities and which is so destructive to change. Alongside sustainability, this research clearly indicates that proactive models of change management do not tend to be part of the cultural norms of universities. While previous research (refer Chapter 2) has alluded to the nature of work in universities and the subsequent differences between academic and non-academic staff, this research also highlights that the differences lie in how academic staff in particular are trained and developed from an early stage in their careers. This has the potential to result in competitive behaviour that is dysfunctional at best and destructive at worst.

“Well, what that means is basically if you try and do something different, even if it doesn’t affect me, I’ll still try

to beat you to death, in case it might just impinge on my interests or because I don't understand it, and I don't want you to get any credit for something. We're all struggling to compete with each other, and I think there's something about the training of academics – we're taught to take an article, tear it apart, and I often see universities as quite vicious environments where people have been taught to be constantly critical – as a scientific attitude”.

Senior academic – sustainable practice

The results of the analysis of the data in relation to change management do conflict somewhat with the findings of the analysis relating to interviewees' views on the role and responsibilities of universities in a sustainable society, where it is clear that there is at least an intellectual understanding that sustainability is linked to issues of governance and change. The difficulty appears to be that, while the understanding is clear about the “what” of sustainability in higher education, the “how” of implementing sustainable practice in universities is greatly impeded by significant structural and cultural obstacles. The challenges facing those attempting to implement change of any kind in universities was illustrated by one senior executive member:

“Part of what I do in my work is really show people, through a variety of simple illustrations, that change is constant in higher education, and the myth (internally as well as externally) that we're stable organisations and don't change, is enormous. We change all the time...”

“...Perhaps because this is a very young institution, it has acquired an organisational value that there’s been too much change, but that’s because there are too many employees left who remember the birthing of the institution and that still troubles them, and so that leaves them with this notion that stability is good, we want more stability. Change is bad. We’ve had too much change already. Eventually the organisation will develop more confidence and pride in itself, and change will become easier – accepted as a normal process”.

6.7 Leadership

Similarly to the results discussed in section 6.6 regarding change management, themes and concepts of “Leadership”, “Management” and “Change” were identified in the Leximancer analysis as being relevant both across all four universities and for each university, again indicating that interviewees agreed that management and implementation of sustainability programs is a challenge for universities in terms of their leadership practices (refer Figure 10 and Table 15). However, the Leximancer analysis in relation to leadership revealed much stronger relationships between factors such as leadership, management, change and performance in relation to sustainability programs.

Figure 10: Primary themes – sustainability programs and leadership (all universities)⁵



Comments in the text accompanying these concepts clearly identify the need for senior executives and management to ensure they develop and exhibit strategic leadership capabilities (refer Chapter 2). These capabilities include not asking staff and students to change systems, processes and behaviours that they are not prepared to change themselves – irrespective of whether those in senior positions have direct operational responsibility for institutional sustainability programs.

⁵ Ibid.

Table 15: Primary themes and key concepts – sustainability programs and leadership (individual universities)

Institution	Primary Themes and Relevance	Key Concepts
University A	<ul style="list-style-type: none"> • People (100%) • Sustainability (73%) • Level (64%) 	<ul style="list-style-type: none"> • People, idea, support, change • Sustainability, leaders • Level, university, leadership, position, changing
University B	<ul style="list-style-type: none"> • Leadership (100%) • Leaders (72%) 	<ul style="list-style-type: none"> • Leadership, sustainability, universities • Leaders, others
University C	<ul style="list-style-type: none"> • Start (100%) 	<ul style="list-style-type: none"> • Start, people, management, experience, whole, rules, human resources, managing, staff
University F	<ul style="list-style-type: none"> • Sustainability (100%) • People (95%) • Problem (78%) 	<ul style="list-style-type: none"> • Sustainability, budget, key performance indicators • People, public • Problem, campus

“They’re not holistic in their approach, that’s for sure. Going back to working in silos again, they all go off and do their own things, and plus maybe we’re promoting people, putting people into positions that they’re not entirely ready for, without proper support and training, and if we’re offering that support and training maybe those people going into those positions feel so consumed by their workload that the time becomes an issue that they don’t take up that support and training”.

Sustainability manager

Discussion with respect to University A was more related to individual preparedness for change (including the need for appropriate support and training, particularly in relation to implementation of sustainability initiatives); the need to set the example; and the need for continuity of leadership to ensure sustainable practice is supported over the long-term. Similarly, interviewees at University B were concerned with issues of leadership, change, change-capable behaviour and the ability to be a model for change, as well as the importance of supporting staff to be able to deal with issues of change.

Discussion by University C interviewees reflected the importance of the need for senior executives and managers to be committed to sustainable practice, and the need to ensure that people appointed to senior positions have the training and support they need to undertake what is required of them.

However, and in contrast to the other three universities, the results for University F indicated a very strong theme of accountability in relation to

sustainable practice. Analysis of the text accompanying key concepts indicated the need for performance measures in relation to sustainability initiatives to ensure that deliverables were being achieved. In particular, universities must ensure that those who are accountable for sustainability programs also have the authority and funding to manage implementation; and that performance measures are accompanied by reporting mechanisms that enable the institution to monitor achievement (or not) against identified goals and objectives.

6.8 Transformation versus transaction

The Leximancer analysis did not identify “Transformation” or “Transaction” as particularly relevant themes in relation to whether or not the management of sustainability programs involves a more transformational or transactional approach. “Transformation” was only identified as a key concept by interviewees at University B within the context of the theme of “People” – related concepts included “Sustainability”, “University” and “Agenda”. The key issue for interviewees at University B appeared to be the need to ensure that sustainable practice was integrated into the overall strategic direction of the organisation and that this was actively pursued across all business units – otherwise sustainability initiatives would simply become casualties of the same culture of “short-termism” that tends to characterise the Australian higher education sector (refer Chapter 2).

However, closer examination of the text accompanying concepts identified for each university indicated that managing sustainability programs does comprise both transformational and transactional elements, requiring a complex balance between strategic planning and on-ground projects:

1. Transactional elements: activities that are relatively easily implemented over the short-term, and that become part of the day-to-day business of the organisation. Results from these kinds of activities can be demonstrated comparatively quickly and used to recognise the efforts of staff and students. Transactional-type initiatives also demonstrate that sustainability programs have momentum. The results they generate support monitoring activity, indicating where adjustments may need to be made to ensure that actual implementation of initiatives remains aligned with intended outcomes. Engagement and recognition are key focus areas for transactional elements of sustainability programs.
2. Transformational elements: activities that are focused on strategic gain over the long-term, moving beyond business-as-usual initiatives. Initiatives with transformational intent are concerned with organisational excellence and competitiveness, with renewal being the key focus area.

Together, transactional and transformational elements are ideally designed to reinforce each other in sustainability programs to promote organisational change. However, analysis of interviewee comments across the universities indicated that the focus of university sustainability programs is still largely that of transactional, day-to-day initiatives. This supports previous findings in this chapter, namely that sustainability programs are predominantly focused on environmental sustainability initiatives with high visibility, as these are perceived as being easier to implement. Less progress is being made in relation to issues such as EfS – which, despite being an element of the core business of learning and teaching and, therefore, strongly related to concepts of

organisational excellence and renewal, continues to be relegated to the “too hard” categories of sustainable practice.

6.9 Perceptions of Australian universities’ performance in relation to sustainable practice

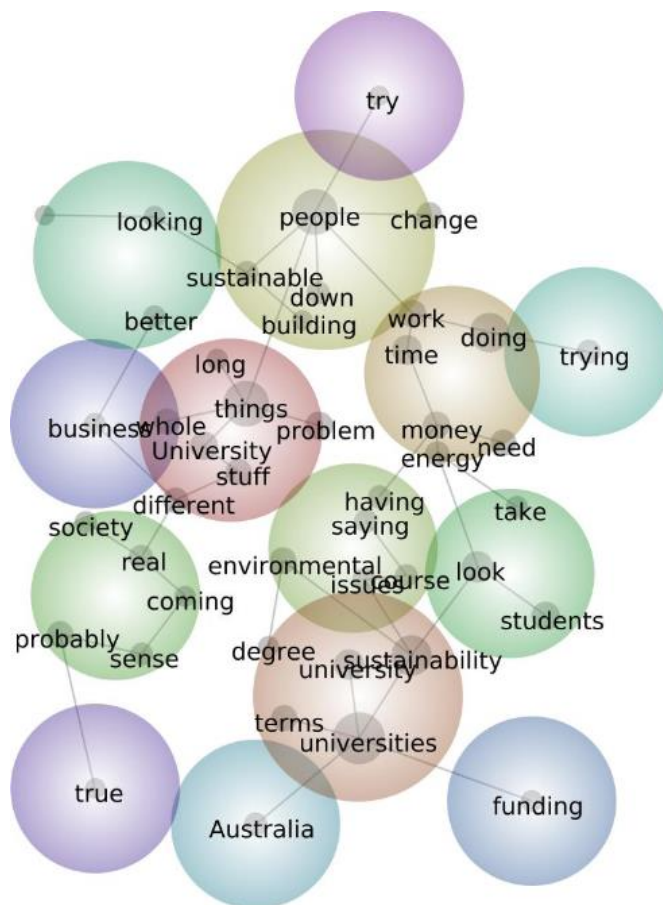
Interviewees at each university were asked about their views regarding the following statement:

While universities are recognised as having multiple roles to play in the sustainability-aware society, Australian universities are not good at, or don’t care about, implementing sustainability initiatives across their various activities.

The Leximancer analysis identified themes of “People”, “Universities” and “Students” as being most relevant to interviewees’ perceptions of how Australian universities perform in relation to sustainability initiatives. Key concepts of “Change”, “Problem”, “Leadership” and “Students” were also identified (refer Figure 11 and Table 16).

Analysis of the text associated with themes and concepts indicated that while interviewees felt this statement was in all probability a reasonably accurate perception of Australian universities and their degree of engagement with sustainability, the reality of the situation is more complicated. Leadership and culture were identified as key issues in the textual analysis. This confirms the findings in previous sections in this chapter, and also in Chapter 5. For example:

Figure 11: Primary themes and key concepts – perceptions of Australian universities and sustainable practice (all universities)⁶



- Lack of leadership in relation to sustainability across the sector as a whole – both internally (specifically, senior executives and Vice-Chancellors) and externally (government). This is regarded as particularly damaging given the perception that numerous staff are heavily involved in supporting institutional sustainability programs;

⁶ Ibid.

Table 16: Primary themes and key concepts – perceptions of Australian universities and sustainable practice (individual universities)

Institution	Primary Themes and Relevance	Key Concepts
University A	<ul style="list-style-type: none"> • Things (100%) • People (71%) • Stuff (38%) • Change (22%) 	<ul style="list-style-type: none"> • Things, university, leadership • People, money, time, example • Stuff, problem • Change
University B	<ul style="list-style-type: none"> • People (100%) • Universities (95%) • Students (29%) 	<ul style="list-style-type: none"> • People, work, time, sustainable • Universities • Students
University C	<ul style="list-style-type: none"> • Perspective (100%) • People (92%) • Time (31%) • University (29%) 	<ul style="list-style-type: none"> • Perspective, context • People, doing, better • Time • University
University F	<ul style="list-style-type: none"> • Students (100%) • Things (69%) • University (24%) 	<ul style="list-style-type: none"> • Students, sustainability, environmental, problem, courses • Things, people, university, doing • University

- The siloed nature of universities and the obstacle this presents to initiatives (such as sustainability programs) that require cross-collaboration between business units and faculties;
- The fact that universities lag behind other education sectors in Australia (with the VET sector highlighted as a particular example), and the extent to which lack of resourcing is affecting institutional progress in implementing sustainable practice (refer also OECD 2011);
- The difficulty of being able to understand in any meaningful, evidence-based sense what Australian universities are actually doing in relation to sustainable practice, given the general lack of performance accountabilities and reporting regarding sustainability programs (refer also Adams 2013);
- Whether the implementation of sustainability programs is actually making any discernible difference to the student experience of universities (refer also Tilbury 2011);
- The fact that levels of engagement and outreach in relation to sustainable practice vary from university to university;
- Specifically, the different approaches taken by individual institutions, but more broadly, the lack of effort being deployed towards ensuring sustainable practice is part of the cultural fabric of universities.

The analysis illustrates – quite rightly – that the universities do have sustainability programs in place; that there is an understanding of the importance of sustainable societies and why higher education institutions need to ensure they play their part in developing, supporting and promoting such societies; and that the respondent universities have deployed successful initiatives of one kind

or another. What the analysis does emphasise, however, is that the participants are not – yet – doing enough to ensure that they fulfil their responsibilities (both as educational institutions, and as large organisations capable of exerting influence over local communities and wider societies), in normalising sustainable practice.

6.10 Conclusion

The analysis of the interview data using Leximancer supports previous research into sustainable practice in universities (refer Chapter 2), supports the desktop research evidence discussed in Chapter 4, and confirms and expands the findings of the manual interview data analysis (refer Chapter 5), in terms of identifying factors that are regarded as obstacles to implementing sustainability programs.

However, the Leximancer analysis also identified other factors not examined in detail in previous research, including the effect of cultural as well as structural silos, and the relationships and interdependencies between identified factors and how they affect efforts to embed sustainable practice in higher education. In particular, the relationships between university leadership and change management practices, organisational culture and the negative effects of these factors working in combination on the management of sustainability programs; and also stakeholder participation (internal and external) in those programs.

The findings of the Leximancer analysis as they relate to, and compare with, the results of the desktop research and manual interview data analyses are discussed in more detail in Chapter 7, where the findings of the research overall are presented and discussed from an integrated perspective.

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CHAPTER 7 – FINDINGS, DISCUSSION AND PROPOSALS

This chapter integrates the results of the desktop and manual/Leximancer interview analyses, discusses the findings and proposes a governance architecture to support the development, implementation and management of sustainability programs in higher education institutions.

7.1 Integrating desktop and interview analysis results

The main findings of the evidence gathered during the desktop research (refer Chapter 4 and Appendix 7) related to issues concerning the general lack of design and planning applied to the development of sustainability programs at the four universities (with the exception to some extent of University A), and highlighted the strong environmental theme that characterised each university's approach to sustainable practice. The desktop research analysis also illustrated the divergence between University A and the other institutions, in relation to the re-conceptualisation of the sustainability program on a whole-of-organisation basis (a strategy that had also started to emerge at University B). Leadership and change management, EfS and student involvement emerged as the major themes relating to the desktop research analysis (refer Figure 3 and Table 6, Chapter 4, pp.139-140). Key concepts associated with the major themes included governance, accountability, executive-level support, graduate capabilities, organisational values, delivery models and curriculum design, student attitudes and student representation. In particular, the desktop research analysis highlighted the three different approaches being taken by the universities in relation to EfS, in the form of EfS sub-themes. These sub-themes illustrated the extent to which the universities regarded EfS as an integral part of the core business of learning and teaching.

A first-level assessment of the universities' sustainability programs based on the desktop research evidence, and conducted against Benn, Dunphy and Perrott's (2011) Sustainability Phase Model (refer section 4.3, Chapter 4, p.159), indicated that the four universities were operating at Phase Four – Efficiency, or the “Industrious Stewards”. This assessment confirmed that the universities' sustainability programs were still mainly focused on environmental initiatives. However, University A could be distinguished by its whole-of-institution approach to sustainable practice in which issues of governance, performance management, EfS and accountability were being addressed in a deliberate and intentional manner (rather than the variously emergent approaches at the other three universities). The desktop research evidence did not provide a great deal of insight into leadership, change management, culture or other features of the internal organisational landscape – or any external factors – that might be affecting the universities' sustainability programs.

The manual analysis of the interview data identified three broad themes – leadership and change management, EfS and student involvement in sustainability programs (refer Figure 4, Chapter 5, p.169). Associated with these broad themes were several sub-themes relating to leadership, change, strategy, curriculum, workforce and students. Key concepts included responsibility, capability, accountability, governance, innovation, strategy, citizenship, student diversity and graduate capabilities. The manual interview data analysis highlighted that while environmental initiatives remain a key feature of the universities' sustainability programs, progress in relation to EfS generally continues to lag, confirming the findings of the desktop research analysis. Further, the universities did not appear to have implemented a broad,

stakeholder-based approach to sustainable practice. This could be contributing to an ongoing lack of engagement by students, in particular, in relation to sustainable practice generally and EfS specifically. The manual interview analysis recognised that while issues of participation, accountability, collaboration and capability are the responsibility of both staff and students, there is still a need for the universities to adopt more strategic and socialised (i.e., consultative) approaches to leadership and change management in relation to sustainability. Further, this needs to be undertaken within a context of sustainable practice as a cultural norm, in order to facilitate the journey towards becoming a sustaining organisation.

The Leximancer analysis reiterated the findings of the desktop research analysis, confirmed the results of the manual interview analysis and provided further insight into the relationships between factors affecting sustainability programs (refer Chapter 6). In particular, themes and concepts identified in the Leximancer analysis largely corresponded with those identified in the manual interview analysis. The exception was the broad theme of EfS (which tended to be highlighted in the exploratory analysis undertaken on the text associated with identified themes and concepts).

Leximancer identified factors such as lack of funding, excessive workload, lack of resources, short-termism, siloed operating structures, lack of (or poor) planning and communication, student disengagement and specific difficulties associated with transport and location as challenges affecting implementation of sustainability programs. A focus on environmental initiatives related to utilities, infrastructure and landscapes, as well as awareness-raising around these types of

initiatives, was often regarded as the best outcome that could be achieved under these circumstances. However, these matters were also identified as symptoms of deeper, more systemic problems in universities.

Sustainable practice was clearly viewed by interviewees as a defining feature of the modern university, which should be a model for, and an advocate of, more sustainable ways of living and working. Further, at least on an intellectual level, sustainability was also identified primarily as an issue of change, renewal and regeneration.

However, the Leximancer analysis identified that, in practice, it is the combined impact of poor leadership and change management behaviours and models that present the greatest challenge to implementing sustainability programs. The models of leadership and change management that tend to dominate in the higher education sector are simply not compatible with the capabilities that are required if sustainable practice is to become part of the core business of the organisation.

Examples of this incompatibility include:

- The practice of treating leadership and change management as mutually exclusive concepts (when in fact it is the interaction and reinforcement between the two that is key to organisational transformation);
- Failure to properly prepare staff to take on roles incorporating significant leadership and change management responsibility;
- An inability to understand the relationship between sustainability and enterprise risk (especially financial and reputational risk); and

- A failure (or inability) to embed change and sustainable practice as part of the cultural fabric of the organisation.

However, the Leximancer analysis also indicated that this situation is not simply a matter of a lack of leadership that is able to socialise the culture and processes of change. Interlinked with the broader issue of inappropriate leadership and change management practices were issues such as the need for sustainability responsibilities to interlock across senior portfolios to drive whole-of-organisation change. This type of cross-unit collaboration is significantly impeded by the siloed structure and culture of universities. This also requires cohesiveness across the senior executive team in particular, but also more broadly across the senior management group itself. Finally, defined performance accountabilities must also accompany sustainability responsibilities attached to portfolios in order to monitor achievement of goals and objectives.

The Leximancer analysis revealed an even deeper issue affecting sustainability programs that goes to the heart of what is a university's purpose. That is, sustainable practice is simply not regarded as a key driver in relation to the student experience of, or quality in, higher education. This is in direct contrast to the findings of research conducted in other sectors such as manufacturing, finance, information technology, pharmaceuticals, and various consumer products such as tea and clothing (refer Chapter 2), where sustainability is fully integrated with the customer experience, product quality, overall organisational strategy and business operating models.

More broadly, this may be related to the fact that universities struggle to engage students as organisational citizens in any meaningful sense, and are perceived as largely inaccessible mysteries by wider communities. However, the issue may best be demonstrated by the findings of the manual interview data analysis in relation to EfS. That is, despite the fact that EfS has been consistently identified as a key business driver in modern universities, and strongly interlinked with concepts of innovation, renewal and graduate capability, it remains largely peripheral to the core business of learning and teaching.

Appendix 7 maps the findings of the desktop research (Chapter 4) to the program factors and possible impacts previously identified in the literature review (refer Chapter 2). Appendix 8 repeats this mapping exercise to incorporate the combined findings of the manual and Leximancer interview data analyses (refer Chapters 5 and 6).

This section discusses the combined findings of the mapping exercise captured in Appendix 8 in more detail. The following section uses the results of the desktop research and manual/Leximancer analyses to conduct a second-level assessment of the universities' sustainability programs using Benn, Dunphy and Perrott's (2011) Sustainability Phase Model. The chapter concludes with two proposals to support the adoption of a whole-of-institution approach to sustainable practice by higher education institutions.

7.1.1 *External factors*

The current research indicates that external factors, such as environmental legislation and regulation; government policy in relation to sustainable practice;

and international ranking systems exert minimal influence on universities' sustainability programs. While environmental regulation is simply regarded as part of day-to-day business, state and federal government policy is recognised as a significant challenge to institutions attempting to embed sustainability into the educational and operational business of the organisation.

Interviewees also recognise that government policy (or lack thereof) is not an issue within direct institutional control. Legislation, regulation and government policy requirements/performance indicators, such as they may be from time to time, are regarded as reference points for institutional sustainability programs. However, they are not viewed as key drivers for why universities choose to engage with sustainable practice.

International ranking systems are considered to be irrelevant in relation to sustainability programs, as sustainable practice is not (yet) a defining criterion of a high quality, international university in Australia. However, interviewees were well aware of the reputational risks associated with making commitments to sustainable practice in the public domain, and then failing to implement initiatives to support those commitments.

A major concern for universities in the pursuit of a more sustainable institution is the lack of policy and advocacy activity on sustainability from Universities Australia¹, the representative body for the higher education sector in Australia. Sustainability is not listed as a “current issue of concern” on the policy and advocacy page of the Universities Australia website².

¹ <http://www.universitiesaustralia.edu.au/>

² As at 16 September 2013

With the exception of issues relating to student involvement in sustainability programs, external factors do not appear to have a major effect on sustainability programs in universities. Indeed, it is internal factors that appear to have a more significant effect on implementation of sustainable practice in higher education.

7.1.2 *Internal factors*

Consistent with previous research (refer Chapter 2), issues such as workload, funding, structural and cultural silos and staffing were noted by all interviewees as internal factors that affect the implementation and management of sustainability programs. However, and more importantly, they were also identified as being symptoms of much more significant factors within the university environment that have deeper effects over the long-term.

A number of identified factors perceived as affecting sustainability programs were closely related to how programs are originally conceptualised and designed. This set of factors reveals that it is not only at the implementation and management phases that problems occur – poor planning and design of sustainability programs is almost certain to result in difficulty deploying initiatives at a later stage:

- Three of the four universities had not aligned their sustainability programs with organisational strategy, major operational portfolios and institutional planning processes. Further, they had not designed their programs on a whole-of-institution basis (with the result that initiatives tended to remain heavily focused on issues of environmental management and less so on issues such as EfS);

- Further, three of the four universities had not included some form of governance architecture to support their sustainability programs, with the result that what the programs themselves were designed to achieve was rather obscure. In contrast, the higher degree of transparency of the sustainability program at University A is illustrated by the presence of planning processes that incorporate identified goals, objectives, outcomes, performance targets and business unit/position-specific accountabilities;
- Critically, and in marked contrast to comparable priorities such as work, health and safety, sustainable practice is not managed or accepted as a key criterion of staff performance or engagement within the participating universities. Of the four, University A has made the most progress in this area. However, interviewees at this institution understood that several years' work is still to be undertaken to ensure sustainability is part of workforce responsibility on an organisation-wide basis. This situation is exacerbated by the dichotomy of the work environment in universities, where academic and non-academic staff often have very different concepts of what their employment in the higher education setting means;
- Finally, the perceived “superhero” status of sustainability managers also impedes the implementation of ownership, accountability and responsibility structures across the organisation in relation to sustainable practice – particularly at the executive, senior and line manager levels.

As demonstrated by this research, the long-term effect of poor planning and design in sustainability programs is a “start-stop” form of deployment that

results in a perceived inability to maintain continuity in the program for more than a few years. Another characteristic of these effects is the so-called “strategic review of sustainability” – in reality, often a cyclical return to the proverbial drawing-board to redesign the program, but which often results in the same problems being built into the new design. At the core of these difficulties is a fundamental but critical breakdown – the simple failure to incorporate sustainable practice as part of the core business of the organisation, and conceptualise sustainability as primarily an issue of change, renewal and a central organising principle for the institution as a whole.

As also highlighted by the findings relating to external factors, these issues further illustrate the very real reputational risk to organisations that fail to ensure the internal reality of their commitments to sustainable practice are fully aligned with the rhetoric expressed in the public arena.

The findings demonstrated that there are major internal factors characteristic of universities themselves that continue to impede the implementation of sustainable practice as core business in these organisations. The silos that are created by how universities are organised (for example, faculties, schools and business units) and the cultural enclaves that result (for example, human resources, finance, student administration and specific academic disciplines) are regarded as particularly damaging to sustainability programs and accompanying communication/engagement strategies. This is consistent with previous research (refer Chapter 2).

This research also noted a marked intellectual disconnect among the four universities between the conceptualisation of a modern university (that is, one which is characterised by being a model of sustainable practice) and the current reality of these organisations. This is illustrative of why change management is often so difficult to implement in universities. The institutions were not lacking in ideas at the senior executive level about how their universities could be modernised. However, the negative effect exerted on change initiatives by structural and cultural silos ensures that change is often only incremental at best in these often behemoth organisations.

Nevertheless, this research notes that how the universities are organised is still not the most powerful factor affecting sustainability programs. The two internal factors exerting the most influence on sustainable practice in universities were found to be leadership and change management.

While the analysis indicated a clear understanding at the senior executive level of the need for socialised (i.e. consultative) change management practices to support implementation of sustainability initiatives, there was also an obvious tendency at other levels within the organisation to view change management predominantly from an industrial relations perspective. Apart from the change management disconnect these differing perspectives are likely to cause, the industrial relations view of change management also impedes implementation of sustainability initiatives by preventing engagement with sustainable practice through education, learning and achievement. More broadly, the analysis also indicated that in general, progress in implementing sustainability programs suffers from a lack of an accompanying change management framework,

particularly in relation to clearly-identified decision-making pathways and responsibilities.

It was also unclear from the analysis as to whether the intellectual understanding of the need for socialised change management practices at the senior executive level was translating to proactive, action-oriented support for actual sustainability initiatives. However, the findings in relation to leadership practices provided further illumination in this regard, as described below.

Similar to the findings in relation to change management, there was clear recognition by the universities of the need for sustainability-educated, proactive leadership to support implementation of sustainable practice in universities. However, current leadership models and practices in higher education – including development and promotion – tend to inhibit change initiatives such as sustainability. The findings noted the consensus by interviewees that current leadership models and cultures in universities are generally not supportive of individuals at any leadership level within the institution who attempt to promote and adopt sustainable practice as part of core business on a long-term basis.

Although performance accountability was regarded as an essential element of success in implementing sustainable practice, there appeared to be little consideration given to how more strategic leadership practices could be developed in universities. Even senior executives tended to frame their response to this question as an issue that individuals other than themselves needed to consider. This led the author to query the likelihood of a “sustaining university” becoming a living reality if those occupying the highest leadership positions in

the organisation are not clear about how to develop and implement strategic leadership practice.

Further, ownership of the sustainability program by the senior executive group was often deflected back to the sustainability manager through a combination of managerial culture focused only on the short-term, and failure to identify appropriate responsibilities within executive portfolios. The latter appeared to be symptomatic of confusion at different levels within the organisation about which areas are responsible for different elements of the sustainability portfolio. Again, not only would this appear to be the result of both poor leadership and change management practice, but also of poor design of the sustainability program at the outset.

The findings also noted the tendency to view leadership and change management as concepts that are not linked within the organisational context, and especially in relation to sustainability programs. This tendency was more marked amongst interviewees who viewed change management as a mainly industrial issue.

Perhaps the major impact of poor leadership and change management practices with respect to sustainability programs, combined with the effect of organisational barriers to communication and engagement, is the failure to incorporate sustainable practice as a cultural norm in higher education. Indeed, it is more likely to be the magnifying effect of several factors acting in combination that, ultimately, determines the degree of challenge and opportunity to be faced by sustainability practitioners in universities.

Of particular concern are the findings of this research in relation to the intersection of students, universities and sustainable practice. The analyses demonstrate that it is unlikely that more than a small proportion of the total student body at any institution will be deeply committed to, and involved in, sustainable practice, and that there are particular challenges to be addressed in dealing with students engaged in sustainability initiatives (especially as representatives on decision-making bodies). However, the failure of universities themselves to involve students more broadly as organisational citizens in the life of the institution was noted by all interviewees as a key reason why attempts to engage the wider student body in sustainability programs continue to have only minimal effect. This, combined with the attitude that attendance at universities is now often more a matter of vocational achievement, rather than higher learning (at least at undergraduate level), was cited by several interviewees as a powerful inhibitor of anything more than only transient attention from students to sustainability engagement strategies.

7.1.3 Factor interaction and interdependency

As demonstrated by this research, several factors (for example, students, lack of public policy, leadership and change management) have the capacity to affect the development, implementation and management of sustainability programs in universities. However, there is also a need to examine what this effect looks like when factors interact and whether interdependencies between them also play a role.

The Leximancer analysis indicated that leadership and change management practices were the most strongly connected in relation to sustainable practice in

the participating institutions, with lack of success in embedding sustainability as part of core business in universities mainly attributed to:

- Failure to lead and manage change in relation to sustainable practice – with the result that sustainability is still widely regarded as an “add on”;
- Failure to understand and conceptualise sustainability as primarily an issue of change – with the result that sustainability remains captive to a narrow definition of “going green”.

Issues with poor leadership were identified as not being simply about individual inability to display appropriate leader behaviour. The interaction between factors was regarded as being most damaging where there was primarily an inability (or lack of desire) to lead and manage change. In particular, change management disconnects at different levels of the organisation (that is, change being led/managed or not being led/managed, and industrial versus social philosophies and practices of change) were viewed as exacerbating the effects of structural and cultural silos already in existence.

Of particular concern to many interviewees was the influence exerted by the combination of outdated leadership and change management models and practices, and introverted organisational culture, to negate the influence of key external factors. Interviewees clearly understood the pressure from professional bodies, course accreditation and review panels, changing employer requirements and others to embed sustainable practice as part of both core business and graduate capability. However, the ability of these factors to assist in accelerating implementation of sustainable practice was being negatively affected by the high level of internal resistance generated by the leadership, change management and

cultural issues identified in this research. Only one of the participating institutions could demonstrate that it had adopted an approach to its sustainability program that was designed to address these issues through the adoption of a whole-of-organisation approach to sustainable practice, in which sustainability is conceptualised as a central component of core business and graduate capability. This state of affairs is extraordinary given the consensus across the universities that learning, teaching and research on sustainability will be important elements in the emergence of sustainable societies over the long-term.

7.1.4 *EfS: specific effects*

Universities should be congratulated for their efforts to embed sustainable practice in utilities, infrastructure and landscape management, not least given the significant establishment and recurrent costs incurred by institutions over many years. The visual amenity of campuses and buildings is also part of the university identity, and a highly visible way for most institutions to demonstrate achievement of various sustainability initiatives.

However, utilities, infrastructure and landscape management are not the core business of higher education. As education institutions, their core business is learning, teaching and research.

While there are acknowledged relationships to be considered (for example, campuses and buildings that are a drain on the financial resources of an institution are likely to result in less funding being available for other business and education activities) it is often the case – as demonstrated by this research –

that EfS tends to receive markedly less attention in the design and implementation of sustainability programs. This research highlights that whether or not EfS is addressed in individual institutional settings is dependent on whether institutions have chosen to adopt a whole-of-institution approach to sustainability, or continue with programs that are largely focused on environmental initiatives.

The case of University A demonstrates that where sustainable practice is viewed as a strategic and central organising principle for the institution itself – and an embedded component of core business – EfS is more likely to be a priority issue and the subject of proactive implementation programs. Conversely, where sustainability programs remain focused on environmental issues more closely related to campus and facilities management – including energy, water, landscapes and the built environment – EfS is more likely to be the subject of only token attempts at implementation (and/or repeated review activity). In the long-term, this is likely to have deleterious effects on the business strategy of universities, given changing market expectations regarding sustainable practice and graduate capability (refer Chapter 2).

A number of specific issues are of particular concern in relation to EfS:

1. The extent to which there is evidence of proactive and enabling leadership and change management in relation to EfS: the desktop research findings clearly illustrate the different approaches of the four participating universities with regard to EfS. However, it is the manual and Leximancer interview analyses that demonstrate that, while previous

research has revealed many issues that need to be addressed in the field of EfS, all of these may ultimately be traced back to two foundation factors – the lack of strategic and enabling leadership in relation to EfS, coupled with a failure to implement processes and frameworks of socialised change management.

Only University A is distinguished by its approach of clearly defining EfS as an issue of strategic importance to the institution, with the senior executive, the primary academic body (the Academic Senate) and the Sustainability Unit working in a collaborative partnership to develop the EfS model for the institution, determine how it is to be deployed and agree performance measures to ensure implementation is in alignment with designated objectives. Despite ongoing efforts, the other three institutions remain at a stage where EfS is still largely an “add on” to existing disciplines, with EfS initiatives appearing to remain focused on incremental change rather than strategic transformation.

2. Demonstrated understanding by universities of both the business and moral drivers of the need to embed sustainability into university curriculum: it is clear from the manual interview analysis that all four universities understand the business and moral drivers of the need to embed EfS into curriculum. EfS is not simply a matter of renewing and reinventing curriculum. While previous research has demonstrated the need to take educational drivers into account when embarking on the EfS journey, it is also critical that institutions understand the organisational and business drivers affecting EfS initiatives. Universities need to have a

clear understanding of the market forces that affect their offerings, and develop a business strategy to guide EfS implementation. There is also a need to determine what expertise and experience will be required by staff in shifting to a course profile where sustainability education is a core feature of all disciplines, and to ensure appropriate training and support are in place to assist staff to transition to new models of curriculum.

Universities also need to be clear about what kind of graduates they are aspiring to produce – this is, after all, both an educational and business outcome. While student demand and student disinterest repeatedly appear as barriers to EfS, they cannot be the only considerations when determining how to integrate EfS and curriculum, given the increasing pressure from external influences such as employers, professional and industry bodies, course accreditation panels and the broader community. There is also evidence to indicate that once EfS initiatives are in place and an accompanying rationale as to why the institution is teaching its students in this way, students will engage with the learning opportunities these types of initiatives provide (for example, refer Leuphana University of Lüneberg’s “Leuphana Semester” and Barth and Timm’s [2011] study on student engagement with the Semester program).

3. To what extent is there evidence of innovation in relation to integration of content, capability and qualification elements across discipline areas such that universities can demonstrate sustainability as a strategy priority in relation to curriculum development and renewal: of the four universities, only University A demonstrated the use of an innovation

agenda in its approach to EfS. This approach linked the elements of curriculum content, course profile structure, staff and student capability, and qualification requirements across discipline areas. This was then coupled with an understanding of competitive differentiation and the business “value add” of EfS as part of an integrated strategy designed to ensure EfS is part of the core business of learning and teaching. Although there is some way to go until information is available as to the success of this initiative, it is a highly proactive approach to change. This is also reflected in the collaborative partnership approach taken by academic and non-academic areas of the university towards ensuring that change of this magnitude is both led, and managed, on a consultative basis across the institution. Most people interviewed at this institution as part of this research had only positive comments about this initiative.

A final point relates to EfS outcomes – none of the universities participating in this research provided any evidence to indicate how EfS initiatives undertaken to date had impacted on student learning and behaviour. This is consistent with research and review findings in other countries (refer Chapter 2, and authors such as Tilbury 2011). It is to be hoped that University A, the most proactive of the four (not least in having set performance measures for its EfS initiatives) may, in the future, be one of the first universities in Australia to demonstrate evidence of impact on learning and behaviour. Tilbury (2011) and others have noted this as an area in the EfS debate in urgent need of further work.

7.2 Second-level assessment – Sustainability Phase Model (Benn, Dunphy and Perrott [2011])

In Chapter 4, the results of the desktop research were used to conduct a first-level assessment of the universities' approach to sustainable practice using Benn, Dunphy and Perrott's (2011) Sustainability Phase Model (refer Appendix 1). Table 17 provides the findings of the second-level assessment, which also incorporates the combined desktop research, manual and Leximancer interview data analyses.

The second-level assessment indicates that, with the exception of University A, little progress generally continues to be made. The universities continue to face significant challenges relating to a lack of leadership support, inappropriate change management practices and continued resistance via structural and cultural silos. Three of the four universities remain exposed to some degree to reputational risk through the public rhetoric of sustainability not being matched by the internal reality. However, these institutions maintain a genuine and (variously) active commitment to sustainable practice. EfS continues to loom as the most significant issue to be addressed for all four universities as they continue on their sustainability journey.

7.3 Proposals

The primary focus of this research was to examine the factors affecting the development, implementation and management of sustainability programs in the participating universities. However, and related to this, the research has also highlighted issues with how sustainability programs themselves are conceptualised and designed, and how they are governed. Further, that while

there is a tendency to regard sustainability practitioners as “superheroes” with unlimited capability to implement initiatives, it was also recognised that a) it was inappropriate to expect practitioners to be solely responsible for the entirety of the sustainability portfolio; but b) practitioners also need to develop capabilities that extend beyond being a specialist in sustainable practice.

Therefore, this research also makes two proposals designed to support the development, implementation and management of university sustainability programs:

1. Sustainability is a management discipline in its own right;
2. Sustainability programs require the implementation of a supporting governance architecture in order to ensure the adoption of a “whole of institution” approach to sustainable practice.

7.3.1 Proposal 1: sustainability as a management discipline in higher education

Irrespective of the demonstrable existence of high-performing sustainable organisations, the sustainability literature in relation to higher education clearly indicates that, by and large, sustainable practice is still viewed as an “add on”, rather than an integral element of core business. That is, sustainability is yet to be regarded as a management discipline in its own right, alongside accepted disciplines such as work, health and safety, quality management and risk management.

Table 17: Second-level assessment – Sustainability Phase Model (Benn, Dunphy and Perrott [2011])

Institution	First-level Assessment	Second-level Assessment	Change
A	Phase 4 – Efficiency <ul style="list-style-type: none"> Primarily due to whole-of-institution approach underpinned by planning, performance management and reporting, identified accountability structures, with demonstrated achievement against goals, objectives and targets, and increasing staff engagement. There is a strong environmental focus, which is the key objective at Phase 4 	Phase 4 – Efficiency and aspirational Phase 5 – Strategic Proactivist <ul style="list-style-type: none"> Primarily due to its pursuit of the key objective at Phase 5 - pursuit of strategic opportunities in sustainability. Typical actions and value added activities relate to a focus on long-term organisational transformation; and work being undertaken to engage staff and students, and build strong linkages between teaching, sustainability, graduate outcomes and the wider social good 	☹
B	Phase 4 – Efficiency <ul style="list-style-type: none"> Primarily due to predominant focus on utilities, built environment and campus management, with early work on a more integrated approach to EfS underway. These are the typical actions, objectives and targeted waste initiatives at Phase 4 	No Change: Phase 4 – Efficiency <ul style="list-style-type: none"> Primarily due to 1st-level assessment results, although there are emerging linkages between learning, teaching and sustainability that are gradually being strengthened. Some issues with EfS appearing to be treated as a secondary consideration behind major research projects Whole-of-institution strategic approach still required as the key objective for University B to start aspiring to Phase 5 	☹
C	Phase 4 – Efficiency <ul style="list-style-type: none"> Primarily due to lack of whole-of-institution approach and dominance of environmental-type issues in sustainability programs (mainly utilities, built environment and campus management). These are the typical actions, objectives and targeted waste initiatives at Phase 4 	No Change: Phase 4 – Efficiency <ul style="list-style-type: none"> The activity profile of University C in relation to sustainability had not changed between the first- and second-level assessments 	☹
F	Transitional: Phase 3 – Compliance to Phase 4 – Efficiency <ul style="list-style-type: none"> Primarily due to lack of whole-of-institution approach, lack of defined sustainability program, and dominance of risk avoidance in approach to managing utilities, buildings and landscapes. These are the typical actions, objectives and targeted waste initiatives at Phase 3 Proactive strategies emerging in relation to governance arrangements (Sustainability Committee), appointment of institutional Sustainability Manager and community engagement 	Transitioning into Phase 4 – Efficiency <ul style="list-style-type: none"> Primarily due to lack of whole-of-institution approach and dominance of environmental-type issues in sustainability programs (mainly utilities, built environment and campus management). However, whole-of-institution plan under development Risk avoidance attitude gradually being replaced by greater focus on internal and external stakeholder engagement in a wider array of initiatives, but still largely environmentally-focused (for example, transport) – these emergent activities align more closely with the key objectives, typical actions and targeted waste initiatives at Phase 4 	☹

Of the four universities that participated in this research, only University A could be said to have adopted sustainable practice as a key element of core business and graduate capability, envisaged it from a strategic perspective as a central organising principle of the organisation, and designed its sustainability program as a vehicle for organisational renewal and transformation over the long-term.

This raises the question of what universities could be doing differently in relation to developing and implementing a sustainability program through the lenses of leadership, change management and accountability, rather than via the more common, single lens of environmental sustainability in isolation. Evidence from this research indicates that universities would benefit from adopting a different approach to leadership and change management, in particular:

- Firstly, through adopting more strategic approaches to leadership (refer Chapter 2, p. 72), and more socialised approaches to change management generally, not just in relation to sustainable practice;
- Secondly, through integrating these strategic and socialised approaches to leadership and change management such that those in positions of leadership within the university context proactively lead the management of change – and that this is a defined responsibility and accountability of those leadership positions;
- Thirdly, achieving assigned sustainability responsibilities should be a fundamental performance expectation and workforce responsibility beyond those in leadership positions. Accountabilities should be clearly

defined through instruments such as employment contracts, position descriptions and business unit plans³; and

- Fourthly, by ceasing to continue a practice of so-called “benchmarking” within the Australian higher education sector that is likely to be reinforcing poor design and implementation of sustainability programs through continuous comparison of variously unsuccessful institutions. Chapter 2 demonstrated that universities generally are not particularly successful at implementing sustainable practice on a comparative basis. If universities genuinely wish to benchmark their performance in sustainable practice, they should aim to incorporate investigation of organisations in industries and sectors other than education in order to gain insight into what “better” and “best” practice actually looks like⁴.

While there is little explicit literature available on the conceptualisation of sustainability as a management discipline, authors such as Werbach (2009), Pratt and Pratt (2010) and Benn, Dunphy and Perrott (2011) illustrate a pathway for deploying “sustainability management” that is portable across different organisation types. Indeed, Pratt and Pratt (2010), Benn, Dunphy and Perrott (2011) and Avery and Hughes (2013) demonstrate the cases of numerous organisations that could be said to have successfully implemented “sustainability management” by:

³ This is a particular feature of the design approach for the sustainability program adopted by TAFE Western in 2012 – a government institution in the VET sector in NSW, Australia. TAFE Western’s project to strategically reorient its sustainability portfolio – including the creation of a new governance architecture – saw the Institute listed as a finalist for two awards in the Green Gown Australasia 2013 awards – the ACTS Award for Institutional Excellence, and the Green Gown Continuous Improvement – Institutional Change award. TAFE Western’s commitment and approach to sustainable practice also saw it awarded Bronze Partner status in the NSW Government’s [Sustainability Advantage Program](#) in February 2013.

⁴ Ibid.

1. Understanding what sustainability/sustainable practice means for the specific industry or organisational context – this includes understanding the internal and external factors affecting the industry or organisation⁵;
2. Defining the sustainability agenda and the business case for the industry or organisation. Degrees of emphasis on different types of initiatives will undoubtedly vary. However, it is highly unlikely that the sustainability agenda and the business case for sustainable practice will attract attention or support through a focus on moral drivers. Adopting a whole-of-business approach is also key to defining the sustainability agenda and business case⁶;
3. Integrating the sustainability agenda and business case with key organisational processes in areas such as financial viability; risk management; work, health and safety; license to trade; marketing, procurement; quality management; franchising/third-party contracting/contractor management; product development; and recruitment⁷;
4. Ensuring that an implementation strategy is in place to actively deploy the sustainability program⁸.

7.3.2 Proposal 2: governance architecture for sustainability programs in higher education institutions

Of the four institutions in this research, only University A could be said to have developed a governance architecture for its sustainability program that was designed to support a whole-of-institution approach, and which incorporated

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

planning, performance management, reporting and accountability elements. At University A, sustainability has been specifically conceptualised as a central organising principle for the organisation; a strategic tool to position the university for change; and an embedded component of core business.

However, leadership and change management commitment, and the business case for sustainable practice/a sustainability agenda, must precede the governance architecture within the concept of “sustainability management”. The governance architecture cannot “lead” the sustainability portfolio, and must be situated in the organisational context through integration of the sustainability portfolio with other management systems. These include the organisation’s own strategic plan/business strategy, external compliance frameworks, government policy where relevant, and industry regulation, standards and other relevant frameworks (for example, in the case of sustainable practice, the GRI Guidelines, the Dow Jones Sustainability Index or the AA1000 standards – refer Chapter 2). External verification of the performance of sustainability portfolios is also increasingly gaining prominence (refer Chapter 2). An illustration of what such a governance architecture might look like for a sustainability program in an education institution is provided at Figure 12⁹.

However, an architecture framework by itself is simply a public relations exercise unless it is also accompanied by:

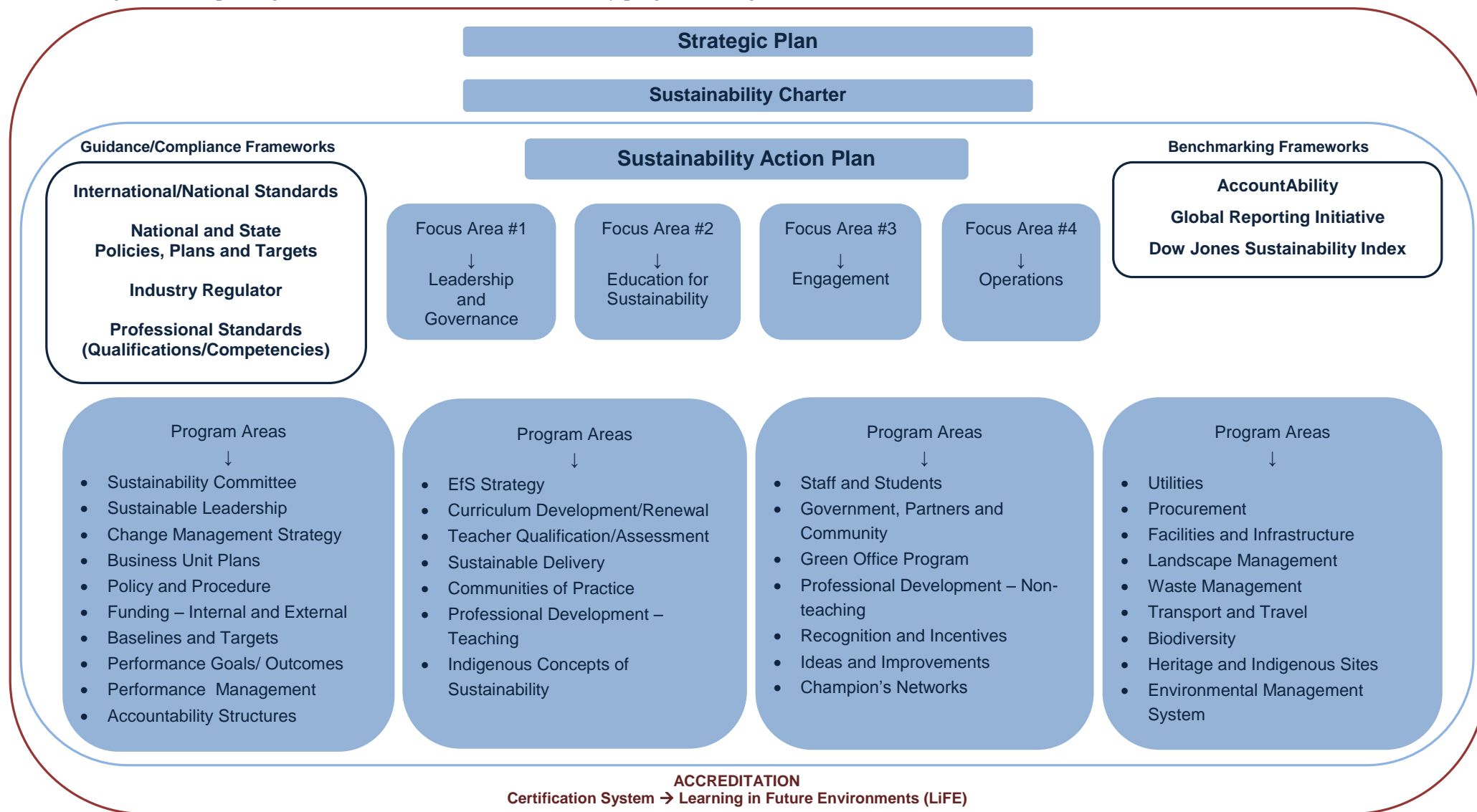
1. A commitment to practice sustainability as a management discipline, as discussed under Proposal 1;

⁹ Ibid.

2. A capability to integrate the sustainability portfolio with the organisation's enterprise risk and quality management frameworks. This assists in determining higher-level and lower-level priorities within the sustainability portfolio, as well as building credibility within the management discipline context, and supporting reporting/monitoring activity;
3. Ensuring that the appropriate governance structures are in place to support sustainability practitioners in implementing the portfolio. An example structure is the Sustainability Committee, with a direct reporting line to the senior executive and governing body⁴;
4. Ensuring the appropriate funding arrangements are in place to support the portfolio;
5. Designing the implementation strategy so that priority initiatives are deployed as the governance architecture is finalised so that the sustainability portfolio itself can be clearly demonstrated as "results oriented".

As illustrated by companies such as Unilever, Fuji Xerox, Patagona, Dilmah Tea and others (refer Chapter 2), and as demonstrated by this research, sustainable practice is simply too complicated a discipline area to implement without ensuring the appropriate governance, management, leadership and change management frameworks are in place, along with a defined sustainability agenda that is fully aligned with business strategy. It is only through this integrated approach to sustainable practice that transformation and renewal is possible into the long-term.

Figure 12: Proposed governance architecture for sustainability programs in higher education institutions



7.4 Conclusion

This chapter has reviewed the results of the desktop research, and the manual and Leximancer interview data analyses, and integrated these with potential key factors (identified in Chapter 2) that could affect sustainability programs.

This integration exercise demonstrates perhaps the most concerning finding of this research, which is simply that sustainable practice is not yet embedded as part of core business, business innovation, development of staff and graduate capability or, perhaps most importantly, renewal and transformation of the organisation itself at three of the four participating universities. Despite recognition by all four institutions that there are significant external pressures attempting to accelerate implementation of sustainable practice on a whole-of-institution basis in universities, the combination of outdated leadership and change management practices, along with the barrier effects of structural and cultural silos, are largely negating the effect of these external forces. Despite the fact that sustainable practice is not yet a cultural norm for any of the universities, one of the institutions has been able to demonstrate how to approach sustainable practice not as an issue of “going green”, but as a strategy for change, renewal and organisational reorientation.

This resistance to change by universities in relation to sustainability is best reflected in the findings relating to students. The research demonstrates that the universities’ view of students appears to be largely one of benign disinterest. While this view may be appropriate from some perspectives and, while many comments were made about the failure of universities to engage current generations of students as organisational stakeholders, there appears to be little

clarity on the part of the institutions in relation to how they could themselves be a force for change for students.

Rather than continue to be essentially complicit in the current workings of society, the two most important contributions higher education can make through learning, teaching and research arguably could be embracing students as citizens in the life of the university, and embedding an approach to sustainable practice in which students and staff can participate in various initiatives on an equal footing. Central to such a stakeholder-based model would be a shared understanding by staff and students that they are jointly responsible for developing the capabilities and accountabilities needed to ensure that the goals and objectives identified in sustainability plans are translated to operational, learning, community, research and strategic outcomes. Universities would then be in a position to realise their as-yet largely untapped potential to influence students' studies and behaviour around concepts of sustainable societies, and how people live and work in them.

Chapter 8 draws together the overall conclusions from this research, provides responses to the research questions, and discusses its limitations and future directions.

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CHAPTER 8 – CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This chapter provides an overview of the research (including the research objectives and methodology), discusses the general findings from the desktop and manual/Leximancer interview data analyses and provides responses to the research questions. Discussion of the research contribution, project limitations and future research directions conclude the chapter.

8.1 Universities are failing the future

Universities are educating the workforce of the future – a future with an increasingly sombre outlook. The issues are not only environmental – social and economic impacts are already emerging, and affecting how organisations are run, how services are delivered to communities, and how resources are being managed.

Universities have a number of key – and usually self-identified – responsibilities in relation to the theory and practice of sustainability. One of the most important of these is that of preparing future business and community leaders for the “sustainability aware” marketplace. Another is setting a sustainability example for all organisations. These two responsibilities are foundations of significant initiatives relating directly to the global higher education sector, including the *Talloires Declaration* (the Association of University Leaders for a Sustainable Future) (signed in 1990), and (particularly pertinent), the *Principles for Responsible Management Education* (the United Nations Global Compact [signed in 2007]).

Universities should be engaging with sustainability initiatives on a number of levels. These include modelling sustainable practice at the organisational level as part of supporting the development and promotion of more sustainable societies; and embedding EfS in learning and teaching to ensure graduates are capable of operating effectively in a marketplace where sustainability is increasingly being regarded as a core requirement of employment. The research frontier in sustainable practice continues to expand, as does the work of the corporate, government and non-profit sector in relation to sustainability, particularly via partnerships with education institutions. Universities are also well-positioned to support and encourage sustainability initiatives in the community through engagement, outreach and advocacy programs.

However, reorienting an organisation toward sustainable practice is a challenging leadership task with significant change management implications. Sustainability is not a “blanket option” – it must be carefully honed to each organisation’s specific circumstances (Pratt and Pratt 2010). This is particularly the case for the higher education sector. Pressure on education institutions to engage more proactively with sustainability continues to mount with the growing evidence that sustainable practice is regarded as key to becoming a high-performance organisation (for example, Avery and Bergsteiner 2010; Pratt and Pratt 2010; Benn, Dunphy and Perrott 2011; Sukhdev 2012).

However, defining what constitutes a “successful” performance outcome in the sustainability program of a higher education institution is extremely difficult. While most universities and TAFEs in Australia have implemented some form of sustainability program, the concept of sustainable practice itself is a highly

contested one in the higher education sector. Each institution attempts to design its own unique combination of program components and initiatives that fit with its institutional history; mission and values; institutional strengths in learning, teaching and research; stakeholder profiles; infrastructure and asset holdings; relevant legislative requirements; and the organisation's future direction. The development and implementation of these programs is usually guided by various charters, policies and plans that state the organisation's commitment to sustainable practice. These guiding documents also usually set out the activity areas covered by the organisation's sustainability program and, variously, the goals and objectives for each area.

However, the rhetoric of sustainability programs does not always match the reality of achievement against stated goals and objectives, and progress in implementing sustainable practice by education institutions on a global basis is mixed. A particularly challenging aspect remains the adoption of an integrated, whole-of-institution approach to embedding sustainable practice as part of the core business of teaching, learning and research; operations; and other activities such as community engagement. There is extensive evidence indicating that universities continue to struggle to become more sustainable organisations, with lack of leadership; inability to manage change; and failure to properly plan for, and resource, sustainability initiatives often listed as major factors affecting sustainability programs. Even when attempts are made to address these particular problems, universities continue to remain generally unsuccessful in terms of lasting change (for example, Carpenter and Meehan 2002; Starik *et al.* 2002; Velazquez, Munguia and Sanchez 2005; Christensen *et al.* 2008; Butt,

More and Avery 2009a, 2009b, 2011a, 2011b; Tilbury 2011; Tilbury and Ryan 2011; Lovins 2012; Winter and Cotton 2012; Adams 2013).

The objective of this research was to investigate internal and external factors, and any interdependencies between them, affecting the management of sustainability programs in universities, from the perspectives of those responsible for the development and implementation of these programs. In particular, external factors affecting sustainability programs in higher education institutions, and any interdependencies with identified internal organisational factors, had not previously been considered in other research. A key focus of this research was, therefore, to shift the current debate concerning lack of progress by universities towards becoming more sustainable organisations from the “what” is not working (that is, identification of individual factors that may have a role to play), to a more complex examination of “why” sustainable practice appears to be so difficult to implement on a whole-of-organisation basis, and in a stable format over the long-term, in the university environment.

The research focused on the following questions:

1. What are the key factors affecting the introduction and management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas?
2. Does the successful management of sustainability programs embody an approach that confirms or challenges hierarchical theories of change management and leadership?

3. Which factors affect:
 - 3.1 Facilitation of the transformation of a university's orientation toward a more sustainable basis of operation?
 - 3.2 Direct participation in the design and delivery of sustainability programs by stakeholders such as employees, students, management and external bodies? and/or
 - 3.3 Support of and for the development of implementation and communication strategies for the management of those programs by stakeholders such as employees, students, management and external bodies?
4. At which level/s in the university do 3.1, 3.2 and 3.3 occur?
5. If transformation of a university's orientation toward more sustainable practices is deemed to have been accomplished, which factors also affect the actual process of achieving ongoing sustainability objectives under established programs (developing, setting, communicating, implementing and monitoring) by those responsible for managing them? Does this become a transactional/frontline process once the transformation is completed?
6. Do individual internal or external factors have a greater level of influence over the management of sustainability programs?
7. Do interdependencies between internal or external factors have a greater level of influence over the management of sustainability programs?

8.2 Methodological overview

Data were gathered using desktop research, and semi-structured interviews. The research focused on universities located in the Sydney metropolitan basin and outer regional areas. Sydney, Australia's largest urban area (comprising some 4.5 million people) hosts a concentrated cluster of higher education providers. Four universities agreed to participate: an inner metropolitan, inner suburban, outer suburban, and regional university. All these universities (labelled A, B, C and F to preserve their identities) have sustainability programs in place, which differ in age, objectives, complexity, scope and level of progress made to date.

8.2.1 *Desktop research*

Each university's website, course search engines and official university handbooks were searched to retrieve data on the degree to which sustainable practice had been integrated into curriculum. Based on a pre-search examination of each university's sustainability website, the following search terminology was derived – “green”, “environment”, “environmental”, “sustainable”, “sustainability”; and “learning”, “teaching”, “curriculum”, “course” and “education”. Using a longitudinal approach, data were collected between September 2008 and June 2009, and again in August 2010. The end dates of the two collection periods coincided with the public release of the universities' 2008 and 2009 annual reports.

8.2.2 *Semi-structured interviews*

Semi-structured interviews were conducted with four sub-groups identified from within the main demographic of interest – those responsible for the development, implementation and management of institutional sustainability

programs. The sub-groups were executive leaders, senior managers, academic staff (teaching and research) and general staff. Purposive sampling enabled the selection of samples that represented a broader group of cases as closely as possible, while preserving the capacity to access greater depth of information from a smaller number of carefully selected cases. This also enabled a focus on narrative data, which was critical to ensuring that the personal perceptions, experiences and histories of the interviewees could be explored (Dunn 2005; Bowen 2008).

Of 50 invitations issued, 34 staff consented (11 in positions of executive leadership, eight senior managers, 10 academic staff and five general staff). The managers of the sustainability programs at each institution, as well as the senior executive/manager with portfolio responsibility for same, were represented in each institution's interviewee pool. Interviews were conducted between November 2009 and May 2010, which coincided approximately with the desktop research phase.

Interviews were conducted in accordance with a protocol informed by the research questions and the results of the desktop research. The 18 questions included primary and secondary questions, and a mix of descriptive, storytelling, opinion and "devil's advocate" questions (refer Dunn 2005). Interviews were digitally recorded and then manually transcribed. Interviewees were sent the transcription of their own interview and asked to provide written approval for the transcript to proceed to the next stage of analysis.

8.2.3 Analysis

Desktop research data was subjected to content and gap analysis in order to create a profile of each university's sustainability program; examine possible factors affecting the management of the program; and inform the development of the interview protocol. Interview data was subject to two stages of thematic and content analysis – using manual and software-based techniques – to further examine internal and external factors affecting the management of sustainability programs, and explore the relationships between them.

This chapter presents the general conclusions of this research, and answers the research questions posed in Chapter 1. The research contribution, limitations of the project, and future research directions are also discussed.

8.3 General conclusions

Much research has been undertaken as to the impediments to the successful implementation of sustainability programs in the higher education sector. Some sections of the global higher education sector are more successful than others, with Europe, the United States and the United Kingdom generally appearing to have made more substantial inroads into embedding sustainable practice than has been the case in Australia. While the focus of this research was the factors that affect the development, implementation and management of sustainability programs more broadly, particular areas of interest that had not been the subject of past research in any great detail included leadership and change management as they relate to the research focus. The effect of possible interactions between internal and/or external factors – another area not previously investigated in detail – was also of interest in this research.

The universities that were the subject of this research have devoted significant effort to the design, implementation and management of their sustainability programs over a number of years. When these programs entered a period of stagnation or inactivity, all four institutions were proactive in strategically reviewing their programs and identifying future directions and intentions; key areas of commitment and activity; and objectives and initiatives for action. However, with the exception of one of the universities, at this stage the rhetoric captured in high-level guidance documents does not tend to match the reality of achievement to date against stated goals and objectives. More detailed conclusions are presented below.

8.3.1 *Governance, leadership and change management*

Poor leadership and change management practices have frequently been identified as impediments to the “mainstreaming” of sustainability in universities, but the underlying issues driving these perceptions are rarely examined in any depth. This research has made a number of key findings in relation to the governance, leadership and change management context of sustainability programs in universities:

1. This research demonstrates that, while their on-paper commitment to sustainability is admirable, universities tend to persist with leadership and change management models that negatively impact efforts to embed sustainability programs on a whole-of-institution basis. This analysis also demonstrates that universities continue to view leadership and change management as mutually exclusive constructs. In fact, it is the integration of these two factors that is the critical factor overall – that leadership itself is an issue in change management (for example, Kotter 1990,

1996); and that leading the management of change is crucial to successful implementation of sustainable practice (for example, Werbach 2009, Sukhdev 2012). It is this successful integration which enables long-term organisational transformation.

This analysis further supports research conducted in other industry sectors (for example, Werbach 2009; Avery and Bergsteiner 2010; Pratt and Pratt 2010; Avery and Hughes 2013), which demonstrates that leading sustainable practice is characterised by executive-level support for appropriate change management practices in order to achieve long-term organisation-wide transformative change.

2. Little consideration has been given to the actual models of leadership and change management, and the theories and assumptions operating behind these, in the general university setting. This research has considered an alternative option that universities could consider – that of sustainable leadership and socialised (i.e., consultative) change management. This would enable universities to examine their own leadership and change management practices in a systemic, holistic way with a view to how these could be improved in order to enhance sustainable practices and programs, thereby assisting managers in the higher education setting to actively manage for the future. Central to this concept is an understanding of sustainability as a management discipline in its own right.

3. A further component of developing enabling leadership and socialised change management practice to drive sustainable practice in the university environment, is the incorporation of sustainability education in the actual models of human resource management and professional development for the entire university community, and particularly for managerial employees with sustainability accountabilities. Universities need to examine their professional development practices with a view to how these could be improved in order to enhance sustainable practices and programs, and also embed sustainable practice as a core workforce responsibility. Through these kinds of mechanisms, sustainable practice is enabled as a cultural norm of the institution. This is likely to be an especially powerful initiative when partnered with sustainability accountabilities and performance indicators embedded in the position descriptions and employment contracts of those positions required to deliver sustainability outcomes.
4. Finally, universities need to ensure that an appropriate governance architecture is constructed for sustainability programs. Not only does such a framework support design and implementation of the sustainability portfolio itself on a whole-of-institution basis, it also ensures that programs and initiatives are visible and clearly aligned with the structural and cultural units of the organisation. Leadership and change management activity is also supported through a clearer understanding of which executive portfolio/operating unit is responsible for which types of sustainability initiatives. However, the governance architecture alone is not enough to support the design and

implementation of a sustainability portfolio. It must also be accompanied by appropriate planning, performance management and reporting, and accountability structures and processes, to support ownership of initiatives by designated operating units. This is necessary to ensure that the university avoids the risk of the sustainability manager becoming the “superhero” responsible for the entire portfolio.

Adopting more contemporary approaches to leadership and change management, as well as providing the necessary education and training for those with sustainability program accountabilities, is preferable to making continual short-term adjustments to flawed sustainability programs with no accountability or educational structures; and forcibly designed to fit with inflexible practices that do not provide space for the flexibility, responsibility and creativity required to enable sustainability programs to succeed. Only one of the universities participating in this research has designed its sustainability program to position sustainable practice as an issue of core business, graduate capability and ultimately, organisational change.

8.3.2 *Students and sustainability*

This research questioned the degree of representation of “the green student” in Australian universities and the influence green students have on decision-making with regard to sustainability programs. The results indicate that, while the participating universities provide opportunities for students to engage in sustainability programs, including through formal decision-making structures, the level of overall student participation is currently very low (refer Butt, More and Avery 2013). Therefore, “the green student” does not at present have a high

degree of representation and involvement within the collective student bodies of these universities.

However, the findings also suggests that universities could enhance their understanding of student attitudes towards issues of sustainability and the environment by adopting a more evidence-based approach using attitudinal research. While the commitment of staff rather than that of students is currently the key “people” driver of these sustainability programs, universities could better leverage the capacity of their student bodies if they understood student attitudes. Only one of the universities studied had surveyed its students on attitudes towards sustainability initiatives. However, the findings of this institution’s survey were not consistent with the views of interviewees from the same institution, who were in a position to have a thorough understanding of student attitudes borne of long experience within the teaching, learning and research environments. This suggests that, while attitudinal research is important and should be pursued, perhaps alternative investigative models may be more illuminating than peer-to-peer student survey research alone.

The analysis also indicated that, with the increasing focus on vocational outcomes in higher education, there has been a failure of universities to involve students as institutional stakeholders. This is regarded as another reason for the lack of interest from students in relation to sustainability initiatives, at a time when it is critical that universities engage students through learning, teaching and research about sustainable societies and how sustainability is a key component of developing more productive and less wasteful ways of living and working. This research indicated that universities are aware of the external

pressures from industry and others to ensure that what they teach incorporates modern trends in relation to sustainability, and that graduates themselves have the capability and skills to work effectively in a marketplace in which sustainable practice is increasingly part of core business. However, the universities did not seem to be as aware of the fact that they do have the ability to influence students, particularly through learning and teaching, to become “citizens of the planet” and, therefore, more responsible in how they choose to live and work in society.

However, it does appear unlikely that sustainability programs will fail without widespread engagement of the student body at the moment. This is because many students appear to be focused on completing their courses and surviving economically rather than on getting involved with university sustainability programs. However, this may change given the ongoing developments in the global higher education sector and changing student expectations with regard to tertiary study.

Sustainability may become a factor influencing the competition for students in the future. Irrespective of the prevalence of green students, business and society more generally expect the university sector to adopt modern sustainability standards and programs, and to act as role models for the next generation. At the moment, given the myth of wide representation of the green student, others will need to continue to drive the sustainability agenda.

8.3.3 *Performance management of sustainability programs*

In addition to discussion regarding the development of governance architectures for sustainability programs (refer section 8.3.1), desktop research data indicates that the sustainability programs examined rarely incorporated a matrix of targets and performance indicators, and did not tend to be supported by a holistic performance management system that enabled ongoing monitoring and evaluation of actions and initiatives – both in terms of achieving desired outcomes, and ensuring corrective action could be taken when initiatives began to deviate from their planned course. This is despite the fact that accountability and responsibility were recognised elements of successful deployment of sustainability initiatives. This indicates that perhaps delivery against actual identified goals and outcomes (where they exist, and with the exception of one participant) is still not fully supported through the leadership and management structures of the institutions. This is a core element of the proposed governance architecture for university sustainability programs (refer Figure 12), and is considered critical to program success – not least because of the wider organisational trend towards integrated reporting across governance, sustainability, finance and other performance-based portfolios.

8.3.4 *EfS*

The research demonstrates that each university has adopted a different approach towards EfS, with only one of the four adopting a process of strategic reorientation and renewal towards sustainability education, such that EfS is recognised as part of the core business of learning and teaching. The other three universities continue on a path of incremental change that, to date, has resulted in EfS remaining largely an “add on” in the curriculum space.

The research also confirms many of the findings of previous research that examined the educational barriers to EfS. However, this research identified three other key aspects of EfS – leadership, change management and business strategy. It is clear that sustainability education continues to experience a lack of strategic and enabling leadership, accompanied by socialised processes and frameworks for change management, to facilitate transformational outcomes. Further, despite increasing pressure from external forces, such as the requirements of professional bodies and course accreditation panels, progress remains generally slow in integrating EfS into the core business of learning and teaching.

Of the four universities, only one had adopted an approach of strategic transformation in relation to EfS, through adopting what this research entitles an innovation agenda characterised by an understanding of the EfS “business value add”, and blending mandated content with staff and student capability frameworks mapped back to individual qualifications. While this is not inconsistent with the findings of previous research about progress on EfS in other countries, it highlights yet again the need for Australian universities to look to their own successes, and also those of their counterparts in Europe, the United States and the United Kingdom, to facilitate efforts to bring EfS into the mainstream of university life, rather than let it remain a peripheral issue of concern to a few. If this cannot be done, universities face the reality of failing not only their own future, but those of their students, employers and more broadly, communities and societies as well.

Despite the variable nature of these findings, all four universities are to be acknowledged for a very real and genuine commitment to sustainable practice, and their stewardship of the resources they manage. However, the major challenge for these institutions is to become sustaining organisations. To do this, they will need to integrate sustainable practice on a whole-of-organisation basis and into all areas of core business, and demonstrate achievement of outcomes through the use of an integrated performance management system. Like many organisations, these four universities still have some way to go on this journey.

8.4 Research questions

Section 8.3 drew several general conclusions addressing the broad findings of the research. This section addresses the specific research questions posed in Chapter 1.

8.4.1 Primary research questions

The primary research questions were concerned with the key factors affecting the introduction and management of the participating institutions' sustainability programs; and what types of leadership and change management approaches accompanied identified successes in managing these programs.

1. What are the key factors affecting the introduction and management of sustainability programs in universities in the Sydney metropolitan basin and outer regional areas?

While issues such as workload, funding and staffing were identified as factors affecting sustainability programs, they were also found to be only symptomatic issues indicative of deeper problems in universities that

impede progress against identified goals and objectives. The key factors found to be affecting the development, implementation and management of sustainability programs in the participant institutions were the universities' own leadership and change management models, practices and cultures. These were viewed as outdated and often quite industrial in nature, inhibiting the introduction and integration of the more socialised forms of leadership and change management required to support the whole-of-institution approach needed to embed sustainable practice as part of core business, graduate capability and cultural norms. Further, the effects of poor leadership and change management were exacerbated by the communication and engagement barriers engendered by the structural and cultural silos that are typical of Australian universities.

2. Does the successful management of sustainability programs embody an approach that confirms or challenges hierarchical theories of change management and leadership?

While none of the universities were successful in embedding sustainable practice, according to the definition used for this research as captured in Chapter 2, all of the universities have made progress over a number of years in relation to various types of sustainability initiatives.

However, a consistent theme throughout the analysis was that the hierarchical theories of change management and leadership that predominate in the Australian university environment are inappropriate in relation to disciplines that require creativity, flexibility and imagination for success – including sustainable practice. The need for a

more integrated approach to leadership and change management was clearly identified, with universities recognising that more socialised models of leadership and change management, in which sustainable practice is a central element, are required in order for higher education institutions to be able to become sustaining organisations. A key component of such an integrated approach should be leading the management of change as a defining characteristic of leadership itself – this is not the case with current models of university leadership.

8.4.2 *Secondary research questions*

The secondary research questions were concerned with which specific factors affected organisational transformation, stakeholder participation and communication strategies with regard to sustainable practice; and whether internal or external factors had a greater degree of influence over the management of sustainability programs. The findings in relation to the secondary research questions also explore in more detail the results summarised under the primary research questions.

3.1 Which factors affect facilitation of the transformation of a university's orientation toward a more sustainable basis of operation?

The main factor driving universities to adopt more sustainable approaches to how campuses are managed, and how curriculum is developed, is the commitment of staff – usually at the senior executive level in the first instance; and in terms of portfolio support, in the form of a sustainability manager or equivalent, and perhaps with a small team.

While pressures from external bodies such as course accreditation panels and industry bodies are acknowledged by the institutions as a force for change over time, the main factors that, in turn, drive staff commitment to reorienting universities towards more sustainable practices are:

- As education institutions, universities are viewed as having a responsibility to support, primarily through learning, teaching and research, the next generations of graduates who will be the future leaders, managers, politicians, professionals and others. This translates as the twin moral drivers of students (and staff) as “citizens of the planet”; and the modern university as the “model for change” that other organisations should seek to emulate.
- The need for education institutions, particularly universities, to demonstrate a “return on investment” in terms of the resources invested in them, particularly as this equates to public funding.

There are difficulties with these views, as the reality is that, in the first case, universities continue to lag behind the private and not-for-profit sectors, in particular, in adopting sustainable practice as a central organising principle. Few universities are yet in a position to refer to themselves as the “models for change” that other organisations should refer to in driving their own sustainability agendas. Indeed, all of the universities in this research accepted that they were far from being organisational “models for change”, while acknowledging that this is one of the key roles and responsibilities of a modern university.

In the second case, “public” universities in Australia are now a mix of multiple funding sources, due to the significant decrease in public funding per student that has occurred over the past 20-30 years. The need to demonstrate a return on investment is not incorrect. However, there remains a public perception in Australia that universities are accountable in terms of government funding alone, with the risk that the return on investment is perceived to be inadequate in comparison to the (again, perceived) enormous amount of taxpayer support provided.

Such concerns with these “rhetoric to reality” gaps should not, however, detract from the efforts of staff who continue to devote time and effort to the ongoing work of embedding sustainable practice in these very large organisations, despite the challenges and difficulties this work entails.

3.2 Which factors affect direct participation in the design and delivery of sustainability programs by stakeholders such as employees, students, management and external bodies?

Students are perceived by institutions as having little interest (beyond a committed few) in participating in how sustainability programs are designed and delivered, due to other commitments. These included employment while studying (often in multiple jobs), and navigating the challenges in getting to and from their university (this last being related to the significant transport and location issues faced by all four universities, particularly in terms of direct inconvenience – awkward and poorly serviced locations [public transport and/or parking], and cost of transport).

However, this research has also noted that universities' failure to genuinely involve students as organisational stakeholders in the life of the institution – including its sustainability program – is another factor contributing to lack of student interest and involvement.

Staff most often cited time and workload as the main reasons for a less than active approach to institutional sustainability programs. However, this is highly variable. Again, this is an area where the reasons cited reflect the reality that sustainable practice tends to be perceived as an “add on”. The indication from the research is that it is the lack of leadership and change management that is the underlying factor at work in relation to staff participation, in that sustainability is simply not part of the cultural norms and workforce responsibilities of these institutions. As a comparison, it is most unlikely that in a similar piece of research conducted on work, health and safety programs, the majority of staff responding in interviews would note that they view workplace safety as an “add on”.

This research also indicates that external stakeholders do not appear to be extensively involved in institutional sustainability programs, other than through specific initiatives such as engagement events, course accreditation or research projects. There was no evidence to indicate that these institutions actively involve external organisations at the design phase of their sustainability programs, in particular.

3.3 Which factors affect support of and for the development of implementation and communication strategies for the management of those programs by stakeholders such as employees, students, management and external bodies?

The research noted that the findings in relation to stakeholder involvement in the design and delivery of sustainability programs are also applicable to stakeholder involvement in support and development of implementation and communication strategies. Indeed, the research indicated that staff, in particular, are often passive recipients of communication, rather than active proponents of sustainability initiatives.

4 At which level/s in the university do 3.1, 3.2 and 3.3 occur?

The research findings indicate that it is usually staff at the senior executive and senior management levels who are the drivers for universities engaging in sustainable practice, as well as supporting the design and delivery of sustainability programs (and including the communication and engagement strategies supporting various initiatives). Committed staff at various levels in different organisational locations also play a role by providing localised leadership and operational support for identified initiatives in a predominantly patchy manner.

However, responsibility for broad or major initiatives is usually devolved to the sustainability manager or equivalent, operating within the context of an identified portfolio area such as facilities management or (in the

case of University A, which demonstrates a whole-of-institution approach) a senior executive division.

This finding is central to why it is so difficult to effectively implement a whole-of-institution approach to sustainable practice in a higher education institution (even when the sustainability program is designed as whole-of-institution, as is the case with University A). This finding reinforces the fact that failure to ensure sustainability is a responsibility and performance requirement for all employees in the organisation – in contrast to workplace safety – and, therefore, part of the cultural norm of the business, continues to result in fragmented and patchy implementation of even the most well-designed sustainability initiatives.

- 5 If transformation of a university's orientation toward more sustainable practices is deemed to have been accomplished, which factors also affect the actual process of achieving ongoing sustainability objectives under established programs (developing, setting, communicating, implementing and monitoring) by those responsible for managing them? Does this become a transactional/frontline process once the transformation is completed?

None of the universities in this research had successfully embedded sustainable practice as a key component of core business on a day-to-day basis. Therefore, none of the universities could be said to have completed their journey to becoming a sustaining organisation.

However, ongoing progress and achievement is a feature of all four universities' sustainability programs in some form or another, and the research clearly indicates that it is the commitment of the senior staff usually responsible for the portfolio, along with the sustainability manager, that primarily drives continuation of the program.

Despite many years' engagement with sustainable practice in some form or another, the universities' programs have been affected by the departure and appointment of committed staff at different times. This is demonstrated by the "stop start" approach that characterises three of the four universities' programs over the years. This also provides further evidence of the fact that sustainability is not yet part of the core business and cultural norms of these institutions.

The research also noted that sustainable practice is an ongoing exercise in both transformational and transactional elements, with consensus from interviewees that transactional and transformational activities neither precede nor follow each other, but act together reflexively as part of a complex network of processes, systems, activities and people that provide (often erratic) momentum for the program over time. However, the research did note that the tendency is for transactional activities to receive greater attention within the portfolio overall, as these tend to be visible, relatively easily implemented and also clearly reportable where performance monitoring and reporting systems are in place.

6. Do individual internal or external factors have a greater level of influence over the management of sustainability programs?

Internal factors have a much greater level of influence over the management of sustainability programs, with identified external factors such as environmental regulation, government policy and international performance rankings regarded as either irrelevant, or beyond the ability of institutions to influence.

Of the internal factors in an individual sense, leadership, change management and institutionalised cultural barriers (typically a result of hierarchical and siloed organisational structures), exerted the strongest influence over the management of sustainability programs. However, the interdependencies between these individual factors exerted a much more powerful affect on the universities' sustainability programs.

7. Do interdependencies between internal or external factors have a greater level of influence over the management of sustainability programs?

By far the strongest level of influence on the management of sustainability programs was exerted by the convergence of leadership, change management and structural/cultural silos in universities. Together, these three forces tend to act as an inhibitor to the universities in their efforts to become sustaining organisations. Their strongest effect results in resistance to efforts to transform sustainability programs into whole-of-institution sustainability portfolios, and broaden their scope from environmental management issues to all areas of the institution. In particular, and with the exception of University A, the inhibiting effects

of outdated leadership and change management practices appear to be preventing these institutions from embedding EfS as a central element of their learning and teaching profiles. This, in turn, will ultimately affect the ability of these organisations to implement strategies for innovation and renewal in relation to curriculum and graduate capability.

Analysis of interdependencies between internal and external factors noted that the influence of external factors (such as professional body and course accreditation panel requirements) seems to be being weakened by the combined effect of the internal leadership, change management and structural/cultural barriers operating in universities. External factors are not yet operating at a sufficient level of influence to force the universities to change how they operate in any significant way to accelerate the uptake of sustainable practice as an issue of core business. In the long-term, this will only damage the ability of these institutions to adopt transformational strategies for change.

8.5 Research contribution

This research makes an important contribution at a time when universities continue to lag behind other sectors in relation to sustainable practice, for reasons that do not accurately reflect the real impediments behind this ongoing failure. While it is acknowledged that universities in Australia face a difficult future, in terms of funding in particular, it is not issues of financial resources or lack of staff that lie at the heart of why these institutions' sustainability programs often remain so strongly focused on environmental management

issues, to the cost of core business concerns such as learning, teaching and curriculum renewal and development.

Findings from this research clearly demonstrate that university leadership and change management models, practices and cultures are the primary factors affecting the development, implementation and management of sustainability programs. These findings are important at a time when universities continue to be criticised for their approach to sustainable practice on a global scale, as leadership and change management are two of the key organisational/business and educational drivers in the higher education setting. There is little point in continuing with research which argues that it is simply an issue of time, money and/or staff. This research demonstrates that, if sustainable practice were prioritised in the way that risk management, quality management and work, health and safety are now prioritised in universities; if sustainability were recognised and implemented as a management discipline in its own right, and as a cultural norm and key workforce responsibility; if sustainability programs were designed correctly in the first instance on a whole-of-institution basis and supported by an appropriately-designed governance architecture with embedded planning, performance reporting and accountability structures; then universities could be expected to make much more significant progress on their journey toward becoming sustaining organisations.

Defining sustainable practice as primarily an issue of change, and designing and implementing programs to deploy sustainability from a perspective of organisational renewal, does pose a significant challenge for universities. It is not sufficient to simply understand the “what” of sustainability – particularly

“what” might not be working. It is also critical to understand the “why” behind the lack of progress, and reflect honestly and openly about what might need to be changed about how the organisation and its people operate if real change is to be achieved. As with any major change initiative, it is necessary to understand what might convince, inspire, or otherwise motivate organisational members to commit to, and participate in, sustainability initiatives; and why and how relationships between factors (as well as the factors themselves) affecting the situation may be preventing progress being made. It is through research such as this – exploring and investigating the direct experiences of those attempting such work in universities – that honest and open reflection may eventually occur.

8.6 Project limitations and future research directions

This research was limited to some degree by the fact that it did not discuss issues of sustainability and students’ views on these directly with students themselves, as the focus of the research was on the perceptions of those in universities with management responsibility for sustainability programs and institutional efforts to involve students in the same.

It is unfortunate that society-level research in Australia indicates a decline in attitudes towards matters of sustainability and the environment (for example Devinney, Auger and DeSailly [2012]) – findings that appear to be reflected in the results of this research. However, the student body of a university is a mix of demographic and cultural factors. While this study recommends that universities and their efforts in relation to sustainability would benefit from a better understanding of student attitudes towards sustainable practice in general, a key area for further research would be detailed analysis of student attitudes within

the context of identified demographic and cultural variables (and including comparisons across undergraduate and postgraduate cohorts). This could lead to universities being able to design alternative strategies for involvement in sustainability programs than currently exist. For example, would student involvement strategies for sustainability programs look different at a university with high enrolments of international students than at a university with lower levels of international student enrolments? What about a higher education institution with a greater proportion of Aboriginal students? It would also be useful to conduct research at this level and incorporate comparative analysis of universities in different geographical areas. This may in turn lead to additional research and practical strategies that could support universities in these endeavours (for example, professional development programs focused on matters of cultural awareness in which those with direct management responsibility for designing and implementing sustainability initiatives could participate).

EfS has been demonstrated through this and other research to be one of the most challenging areas of sustainable practice in universities. This research focused on four institutions in the Sydney basin and region, Australia. To obtain a perspective that is more representative of the sector as a whole, there is a need to extend this research to institutions across Australia and undertake comparative work with similar institutions in Europe, the United States and the United Kingdom. There is also a need to extend this work into the Asia-Pacific region, with many universities across South-East Asia, in particular, also working to embed sustainability in university curricula.

The nature of the higher education sector in Australia is also rapidly changing. In the past there have always been two distinct “arms” of tertiary education – the VET sector, represented in the state of NSW by the 10 institutes of TAFE and many hundreds of private registered training organisations. Universities – also known in the past as higher education providers – form the other “arm”. Following the national review of higher education in 2008 (refer Bradley *et al.* 2008), and the increasing pace of sectoral reform in the intervening years, the distinction between the VET and university sectors is gradually disappearing, to be replaced by a concept of a higher education sector characterised by a spectrum of continuous learning with VET providers at one end, and universities at the other. Dual-sector institutions, partnerships and collaborative articulation and pathway projects between the two, and the increasing practice of VET providers offering tertiary degrees, and universities offering VET qualifications, is further blurring these lines. Future research would benefit from a focus on the continuum of EfS across this emerging higher education arena. It is likely that universities could derive many learning opportunities from the work done to date in embedding sustainability in curriculum in the VET sector, which has been more successful on a comparative basis (for example, OECD 2011).

Of further interest would be comparative research on student attitudes towards sustainability issues between the university and VET sectors. Given that VET students often come from very different socioeconomic backgrounds than many university students, it is likely that this broader higher education sector comprises many more varied attitudes and perspectives on issues of sustainability and the environment than this research indicates is currently the case.

As has been noted by others, there is also a need to be able to demonstrate the impact that EfS initiatives have on student learning and behaviour – not just in the workplace, but also at home, and in the wider community. From a business perspective, but also from a perspective of moral obligation, there is a need for universities to be able to demonstrate EfS outcomes. This is not simply in relation to universities justifying the investment made in them – it is critical to the societies of the future that EfS initiatives move beyond tweaking curriculum models, to where they have a genuinely transformational effect on students in creating “citizens of the planet”.

Finally, there is a need to examine the capability of sustainability practitioners themselves in the higher education context. The role of a university sustainability practitioner can be highly variable, ranging from a narrow focus such as facilities management, to responsibility for the entire organisation’s sustainability portfolio. While there is a substantial body of research into sustainability practitioner capability (for example, Wiek, Withycombe and Redman 2011), this research also acknowledges that there is little to no empirical or other evidence demonstrating that particular practitioner capabilities lead to identified learning and/or organisational outcomes. There is a need for research to investigate current capability frameworks and, perhaps, propose new ones, to support those who, in turn, are supporting higher education institution on their journeys to becoming genuinely sustaining organisations.

CHAPTER 9 – 2013 UPDATE

Data collection for this research concluded in 2010. In the intervening years to 2013, the argument for sustainable practice as a component of core business has only continued to grow stronger (for example, Sukhdev 2012). Unilever’s *Sustainable Living Plan*¹, for example, embodies Sukhdev’s philosophy of a corporation that works to “increase social equity, decrease environmental risks, and still generate profit”. It is against this backdrop that this chapter discusses the findings of a final period of desktop research, conducted on the four universities’ sustainability programs, in July 2013.

9.1 University A

University A has maintained its commitment to sustainable practice as a central component of core business, and has since expanded its sustainability program to integrate it with the institution’s corporate governance framework. Sustainable practice remains a key strategic priority for University A.

Annual performance reports:

- Have been aligned with the GRI Framework²;
- Are subject to an annual evaluation process designed to determine efficacy and future relevance of identified performance indicators;
- Have been enhanced to acknowledge areas that remain ongoing challenges for this institution in its efforts to become a sustaining organisation.

University A has continued to update its sustainability website with various new initiatives. Innovative ideas continue to feature in the ongoing development of

¹ <http://www.unilever.com/sustainable-living/uslp/>

² <https://www.globalreporting.org/Pages/default.aspx>

the sustainability program, including the award-winning online “green campus guide”, which utilises multimedia that enables users to interactively explore sustainable practices at different locations around the university; and the introduction of interest-free loans for staff to purchase tickets for public transport.

The early work undertaken in 2010 on integration of sustainable practice into learning and teaching, and graduate capability – refer Chapter 4 – continues to expand in influence through a focus in 2012 and 2013 on staff capability and development of resources to support discipline-specific implementation activity. University A continues with its EfS curriculum development and delivery strategies under its Learning and Teaching Plan. As at 2012, it had reported that over 20% of its courses had been able to demonstrate successful integration of EfS into unit content – a significant increase on the 2% reported in 2010.

As evidenced in University A’s annual sustainability reports, positive progress continues to be made across all areas of the portfolio, demonstrating that while University A is not yet a sustaining organisation, it has clearly succeeded in its goal of creating and implementing a whole-of-institution approach to sustainable practice. This is also demonstrated by the scope of University A’s sustainability portfolio, which is the most comprehensive of the four universities in this research.

9.2 University B

By the end of 2011, University B had conducted a strategic review of its sustainability portfolio across the areas of research, curriculum, engagement and

campus operations and support. The review report catalogued the numerous projects and initiatives underway, the scope of which is very broad, and which includes several high-profile international partnerships. While the review also identified strategies to integrate initiatives across different operating areas of the university, the review report clearly identifies the sustainability portfolio in its current form as being a large collection of initiatives and projects, rather than an integrated whole-of-institution approach to sustainable practice. The results of this review were under consideration by the university executive in 2012, and had also been recommended for inclusion in the 2012 budgeting and staffing round.

Project work had also commenced in 2012, in partnership between the Sustainability Unit and the Academic Senate, on a more structured approach to embedding sustainability into curriculum across the University's discipline profile. In 2013, it was not clear how this work has progressed, given that the sustainability website is focused on the principles of EfS, the need for leadership in sustainability education and examples of what is happening at other institutions. However, the sustainability review report did note that a number of sub-majors in sustainability had been developed (work on which had commenced in 2009-2010, refer Chapter 4).

Following on from the audit of "green" units conducted in 2010 (refer Chapter 4) a full list of sustainability-related units may also be downloaded from the website. A process of rationalisation appears to have taken place, with the 223 units identified in 2010 reduced to 76 in 2013. While the current list does not indicate which units are actually on offer at any given time (or which units are

mandatory content or electives), analysis of the list indicates that the proportionate ownership of sustainability-related units by natural sciences and engineering disciplines has increased since 2010:

1. In 2010, 53% of the 223 units identified in the audit were “owned” by schools operating in the natural sciences and engineering disciplines;
2. In 2013, 67% of the 76 units listed on the website were owned by natural sciences and engineering disciplines.

The list of units is comprehensive, however, and provides early evidence to indicate that, depending on how students are able (and encouraged) to incorporate units from different discipline areas into their courses as elective components, University B’s more structured approach to embedding EfS into curriculum may be more successful than previous attempts.

The sustainability website had been refreshed with a number of new initiatives. Of note was the inclusion of EfS in the academic literacy program designed to assist students in preparing for university life. Evidence was also available of early work to integrate sustainability with procurement, information communication and technology (ICT) and staff health and wellbeing programs. Large sections of the website also featured initiatives underway at other institutions, and this “portal” approach is considered helpful in demonstrating and disseminating alternative institutional approaches.

However, this practice does raise a concern that University B’s approach to sustainability, as it is currently visible in the public domain, could be perceived as a loose collection of initiatives subject to ongoing review and episodic

progression. This was also apparent from the review conducted in 2011. While University B has articulated a sustainability framework – focused on engagement, research, EfS, campuses, strategy, leadership and resourcing – how that framework is being deployed is not clearly apparent via the sustainability website. No evidence of integrated performance reporting for the sustainability portfolio was available on the website.

9.3 University C

Similarly to University B, in 2011 University C had conducted a strategic review of its sustainability portfolio. The result of this review was a draft sustainability strategy for 2012-2015, for consultation with staff and students. Consultation undertaken as part of preparing the draft strategy had clearly identified EfS, sustainable infrastructure and integration of sustainability into decision-making and activities at all levels as high priorities (although consultation numbers appear to be very small). The final strategy was launched at the end of 2011.

The strategy clearly articulates the university's intention to move away from narrow environmental management-type interpretations of sustainable practice that had characterised the portfolio previously, to a more comprehensive approach encompassing all facets of sustainability across learning, teaching, research, operations and engagement activities. Performance management and reporting are also central components of the new strategy (although how these will be developed and deployed is not yet apparent). Objectives, strategies and some performance targets have been established in the new strategy. However, implementation of these is dependent on the development of new, or revision of existing, action plans located in the University's different business units.

By 2013, however, the sustainability website did not reflect that a new strategy had been put in place, as it appeared largely unchanged since 2010. In particular, and in contrast to the comprehensive commitments to EfS in the new strategy, the website provided little information about EfS activity at University C.

In summary, while University C has been proactive in developing a new sustainability strategy using a consultative approach with staff and students, the public face of its sustainability portfolio, as illustrated on its website, makes it unclear how far University C has progressed in implementing its strategy for 2012-2015.

9.4 University F

University F's website had been refreshed, giving the sustainability portfolio a more corporate image than had been the case with the previous version of the website. Sustainable practice at this institution had also undergone another repositioning exercise, with the focus in 2011-2013 being on promoting industry leadership in campus management (with a particular emphasis on resource and landscape management), and sustainability-related research initiatives. While this repositioning is reasonably consistent with earlier portfolio content, the removal of any reference to EfS was a concerning development.

A positive development has been the finalisation of a sustainability plan for 2011-2013. This lengthy document, including vision, principles, objectives, and analysis of past practice and future challenges, commits the institution to sustainability objectives across teaching and non-teaching functions. These include planning, internal and external engagement, research, transport, waste,

procurement, learning and teaching, infrastructure and utilities. While the plan includes selected key performance indicators and targets for different themes, many of these are either yet to be developed, not yet defined in terms of actual measurements to be taken (apparently to be undertaken during the life of the plan), or do not specify a performance level beyond generic measures (for example, “compliance with procedures”, or “maintaining or reducing the total amount utilised”). This is particularly noticeable in relation to learning and teaching. Future activities are proposed only, giving the impression that full institutional commitment to deliver all sustainability initiatives listed is yet to be achieved.

A number of sub-plans have also been developed (for example, landscape and transport management) or are scheduled to be developed (sustainability operational plan). The landscape management plan, in particular, is a comprehensive document at over 70 pages. This represents a significant body of work for University F over the long-term, given the need to improve the ecological integrity of the main campus, and also meet ongoing works and maintenance requirements, within a context of growth and further development of University F’s facilities.

In summary, the future of sustainable practice at University F appears to be heavily focused on resource stewardship, campus management and research, with significantly less emphasis on learning and teaching.

9.5 General observations

A number of general observations were also made:

- While only one university openly acknowledged the issue in the public domain in documents available on its sustainability website, it is clear that a lack of leadership, particularly from the senior executive level as whole, continues to impede progress towards achieving identified sustainability objectives;
- The link to the sustainability webpage had been removed from the homepage of each university's website. In 2010, the link to the sustainability webpage had featured on the website homepages of universities A, C and F. By 2013, not only had the sustainability webpage link been removed from the homepage in all four cases, but sustainability had become increasingly difficult to find on the universities' websites, with their location requiring the use of the search function;
- During the time this research was conducted, the sustainability coordinators at universities B, C and F resigned. Of these three, two had been with their respective institutions for less than 12 months;
- Of the four universities, only University A had signed on to the LiFE Index³ (the performance management, staff engagement and accreditation system designed specifically for higher education institutions in Australasia, introduced in Chapter 2). Indeed, University A was a founder of LiFE as part of its introduction to the Australasian sector in 2012;

³ <http://www.thelifeindex.com.au/>

- A search of the universities' websites noted no improvement to sustainability reporting in the public domain as compared with performance management findings from 2009-2010. University A has continued its practice of issuing comprehensive annual sustainability reports, which are available publicly. University F introduced environmental sustainability report cards in 2011, although these are not available in the public domain;
- On a more positive note, two of the four universities had been award-winners in national (and in one case, international) sustainability awards for the higher education sector in 2012 for specific sustainability-related projects.

9.6 Conclusion

This final exercise in desktop research, conducted in July 2013, gives further weight to the main finding of the research conducted over 2009-2010. Higher education institutions generally struggle to develop and implement a whole-of-organisation approach to sustainable practice, with sustainability as a central organising principle for the institution itself, and an integrated component of core business.

While the components of the universities' sustainability strategies – such as they have been articulated – feature numerous similarities, the divergence in strategy implementation across these four universities is significant. To some degree this relates to each university's attempt to customise its sustainability portfolio to its own particular circumstances. However, it is also clear that the rhetoric of

strategy documents is rarely matched with the reality of deploying sustainability initiatives and programs.

While none of the universities has been successful to date in completely embedding sustainability as part of its core business, University A is clearly distinguished in this group by its continued proactive stance on sustainable practice and its determination to ensure sustainability is one of its central organising principles. While not yet a Phase 6 Sustaining Organisation in Benn, Dunphy and Perrott's (2011) terms, it is clearly what Benn, Dunphy and Perrott (2011) would be likely to term an aspiring Phase 5 Proactive Strategist – as it had previously been identified under the assessments conducted in Chapters 4 and 7.

The other three universities were previously assessed under Benn, Dunphy and Perrott's (2011) Sustainability Phase Model as being at different levels within Phase 4 – Industrious Stewards, where the primary objective is to eliminate waste and increase process/material efficiencies (refer Chapter 4). Universities B and C still appear to be operating at this level, with University B, in particular, still needing to define an integrated, whole-of-institution approach to sustainable practice as part of moving the organisation away from a history of sustainability as a collection of activities subject to constant review. While University C has now articulated a comprehensive strategy for sustainable practice across all areas of core business, the results of implementation to date remain unknown, due to the lack of information available in the public domain.

The preliminary assessment conducted on University F in Chapter 4 identified the university as being in a transition phase between Phase 3 – Compliance and Phase 4 – Efficiency. In the intervening years, University F has clearly articulated a targeted approach to sustainability that is focused on campus management and research. While this clarity has been important for this institution, it does present certain challenges that this university will eventually have to consider in the long-term. That is, the targeted approach to sustainability does not appear to include any real emphasis on EfS and its integration with learning and teaching. This is a regression from University F's earlier attempts to engage proactively with EfS, and in time is likely to prove especially problematic given that the wider global debate has clearly flagged that education institutions need to ensure that EfS is a central part of every student's learning experience.

This research has examined the different approaches taken by four different higher education institutions to sustainable practice, and illustrates the very real commitment these universities have espoused in relation to sustainability. Their achievements are many, for which they should rightly be congratulated. However, this research has also examined the factors affecting the development, management and implementation of sustainability programs at these universities, and demonstrated the challenges that continue to face education institutions' attempts to become sustaining organisations. It is clear from this research that sustainability as a management discipline in its own right is not (yet) a concept that universities tend to implement successfully; and that the journey to become a sustaining university is one which will occupy the higher education sector for many years to come.

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APPENDIX 1 – BENN, DUNPHY AND PERROTT (2011) SUSTAINABILITY PHASE MODEL

Note: Phases 1 and 2 are regarded by the authors as ‘relics of the past’ – the phase model has evolved since the 2006 version to essentially render these two phases redundant in the revised 2011 model, the stages of which are now to as *Strategic Sustainability Phase Stages*; and the focus of the authors’ research is now organisations that are operating in phases 3-6 of the model.

Phase	Features	
Stage One – Rejection ‘Freeloaders and Stealthy Saboteurs’	Prevailing theme: exploit resources for maximum short-term gain <ul style="list-style-type: none"> • No effective strategic planning around the ongoing growth and development of the business • Active opposition to adopting a corporate ethic broader than financial gain 	<ul style="list-style-type: none"> • Minimal skill development for staff • Work health and safety ignored or paid ‘lip service’ • Short-term business perspective • Operational focus is on the day-to-day
Stage Two – Non-Responsiveness ‘Bunker Wombats’	Prevailing theme: business as usual <ul style="list-style-type: none"> • Lack of awareness or ignorance by senior executives about sustainability • There may be some awareness of sustainability, usually triggered by the realisation that the current operating model will not generate growth into the long-term – but no time, expertise or resources are made available to action this awareness if it exists • True cost of operations is externalised 	<ul style="list-style-type: none"> • Operations based on conventional models that do not incorporate sustainability into decision making • Focus is on creating a compliant workforce • Where possible, community issues are ignored and any negative impacts on the environment of the organisation’s activities are disregarded • Culture is focused on short-term operations and results

Phase	Features	
Stage Three – Compliance ‘Reactive Minimalists’	<p>Objective:</p> <ul style="list-style-type: none"> • Seek to be compliant to the law and all environmental, health and safety requirements and relevant community expectations <p>Business opportunities:</p> <ul style="list-style-type: none"> • Avoid the potentially huge costs of non-compliance and create an effective risk management system <p>Typical actions:</p> <ul style="list-style-type: none"> • Determine what is relevant legislation, regulations and community expectations; build an effective risk management system with an informed workforce committed to compliance; establish an organised measurement and monitoring systems 	<p>Value added:</p> <ul style="list-style-type: none"> • Risk minimisation; easier finance; basis for positive reputation; improve relationship with regulators <p>Waste to target at this phase:</p> <ul style="list-style-type: none"> • Fines for non-compliance; higher-cost finance; poor reputation; time and energy wasted coping with antagonistic regulators and community groups <p>Prevailing theme: avoid risk</p>

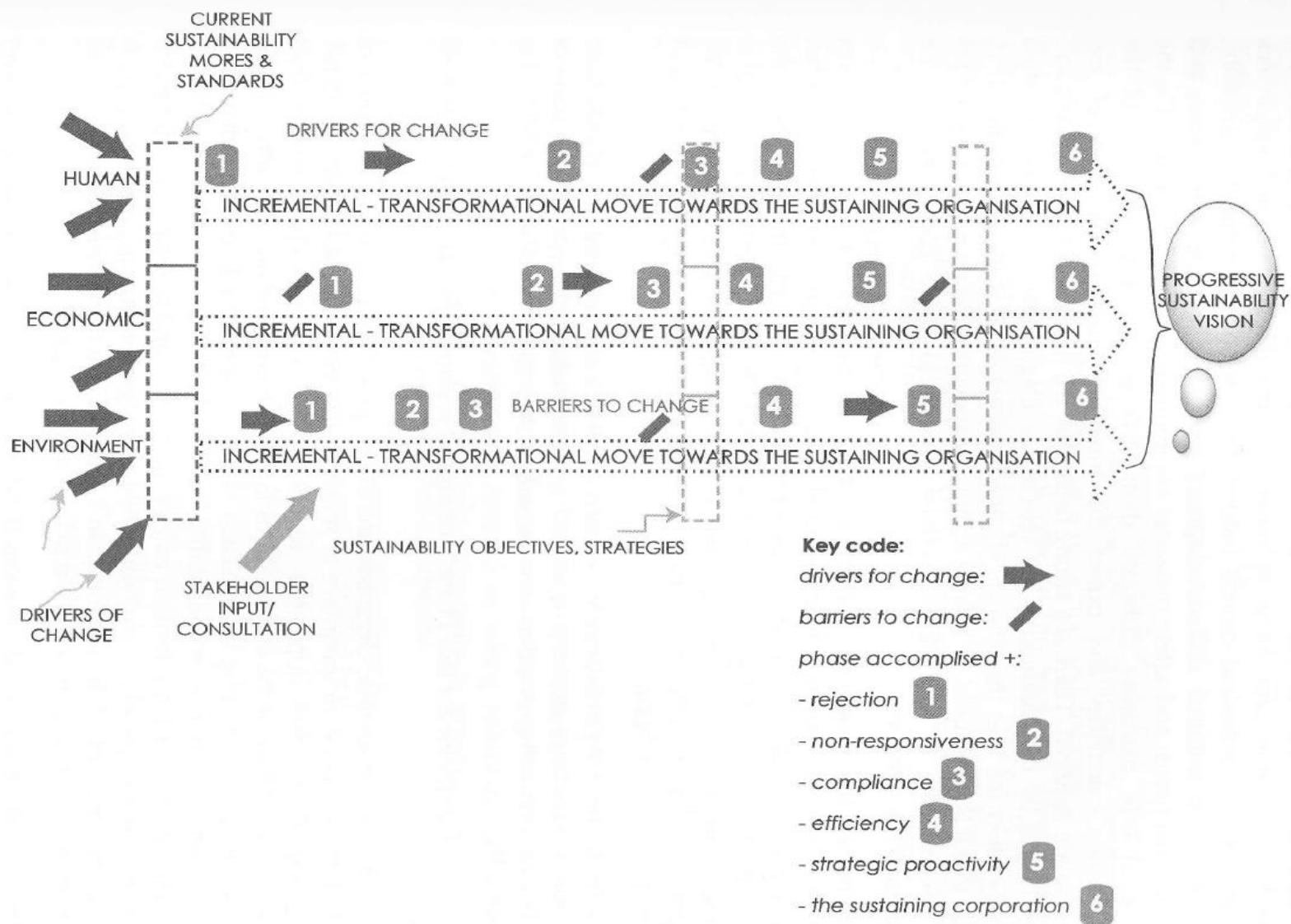
Phase	Features	
<p>Stage Four – Efficiency</p> <p>‘Industrious Stewards’</p>	<p>Objective:</p> <ul style="list-style-type: none"> Progressively eliminate waste and increase process and material efficiencies <p>Key business opportunity:</p> <ul style="list-style-type: none"> Increase efficiencies by waste reduction and reorganisation <p>Typical actions:</p> <ul style="list-style-type: none"> Reduce resource use (energy, water, materials); design/redesign buildings/plant to dramatically reduce ‘footprint’, create adaptable spaces; move to front-of-pipe solutions to eliminate waste or return it to the production cycle as a resource (biomimicry); recycle/manufacture (lifecycle stewardship, cleaner production); dematerialise – service provision rather than material production; redesign products – sustainably produced and environmentally friendly; meet international Global Reporting Initiative guidelines 	<p>Value added:</p> <ul style="list-style-type: none"> Cost reduction/saving; increased employee productivity; increased employee involvement/engagement; better teamwork and lateral communication <p>Waste to target at this phase:</p> <ul style="list-style-type: none"> Wasted physical resources (e.g. water, energy, heat, power, materials); wasted human resources (e.g. under-utilised people, turnover of important skills, absenteeism, lack of motivation, engagement, commitment, internal conflict and political processes) <p>Prevailing theme: do more with less</p>

Phase	Features	
<p>Stage Five – Strategic Pro-Activity</p> <p>‘Proactive Strategists’</p>	<p>Objective:</p> <ul style="list-style-type: none"> Pursue the strategic opportunities in sustainability <p>Key business opportunity:</p> <ul style="list-style-type: none"> Become market leader through pursuing the strategic potential of sustainability <p>Typical actions:</p> <ul style="list-style-type: none"> Commit strongly to sustainability; rebrand and build wider stakeholder support; be early in on new product/service demand curves; creatively destroy existing product designs, manufacturing models and reinvent the organisation, leapfrog competition by early breakthroughs; increase employee and stakeholder engagement to source innovation ideas; shift the prevailing business paradigm in environmental and social ideas; innovate with new models of stakeholder governance; concentrate on adding value and innovating 	<p>Value added:</p> <ul style="list-style-type: none"> Increased revenue and market share; stronger stakeholder support (reputation and commitment); higher customer retention rates, faster attraction of new customers; established lead in developing new markets; employer of choice – attract and retain skilled managers and professionals; operate at high value-added end of market <p>Waste to target at this phase:</p> <ul style="list-style-type: none"> Lost revenue and market share; hostile or apathetic stakeholders; loss of customers; failure to enter and secure a place in new markets; low skilled managers and employees; operations at the low value-added end of the market; redundant operations and units embedded in the old world <p>Prevailing theme: lead in value-adding and innovation</p>

Phase	Features	
Stage Six – The Sustaining Corporation ‘Transformative Futurists’	<p>Objective:</p> <ul style="list-style-type: none"> • Redefine the business environment in the interests of a more sustainable world and to support core strategies of the organisation <p>Key business opportunity:</p> <ul style="list-style-type: none"> • Create a constructive culture that continually renews the long-term viability of the organisation <p>Typical actions:</p> <ul style="list-style-type: none"> • Participate in changing the ‘rules of the game’ to achieve sustainability; participate in public policy formation; reorganise the company’s supply chain to ensure that the whole production process is sustainable; build human and relational capital; support dematerialisation and the growth of the knowledge-based economy; model best practice, support/publicise best practice elsewhere; participate in international agreements; seek external auditing of sustainability; influence capital markets to support long-term value-adding; build a constructive culture that encourages openness, debate, innovation and participation 	<p>Potential business benefits:</p> <ul style="list-style-type: none"> • Global leadership of the sustainability movement; enhanced reputation and stakeholder support and involvement; increased share value; attraction/retention of talented, highly motivated employees <p>Waste to target at this phase:</p> <ul style="list-style-type: none"> • Strategic diversion from the sustainability goal for the organisation and society; products, services, processes that damage reputation as a sustainability leader; loss of business focus; non-alignment of corporate talent with the organisation’s strategic goals, loss of critically important talent; any remaining non-sustainable work processes, products or services <p>Prevailing theme: transform ourselves, lead in creating a sustainable world</p>

Source: Benn, Dunphy and Griffiths (2006); Benn, Dunphy and Perrott (2011)

Strategic Sustainability Phase Stages



Source: Benn, Dunphy and Perrott (2011)

APPENDIX 2 – DESKTOP RESEARCH DOCUMENT SOURCE SUMMARY LIST

UNIVERSITY A

1. Annual Reports – 2007, 2008, 2009
2. Vice-Chancellor’s Reports to the University Council – 2006, 2007, 2008, 2009
3. State of Play at University A: Sustainability Actions, Plans and Policies 2007
4. Draft Sustainability Policy and Procedure – 2008
5. Sustainable Space Allocation Policies and Procedures – 2008
6. E-Waste Policy and Procedure (unrevised) – 2007 and 2009
7. Sustainability Policy and Procedure – 29 January 2009
8. University A Sustainability Strategy Target 2014 (final draft March 2009)
9. Minutes – Sustainability Working Group meetings – 2007 and 2008
10. Biodiversity Action Plan (undated)
11. Bicycle Network Master Plan – 2006
12. Absorption Chiller – 2009
13. University A Catchment Connections – 2009
14. University A Campus Sustainability Assessment Framework – 2003
15. NSW Department of Environment and Climate Change (DECC) Water Savings Action Plan (undated)
16. Energy Education (Powerpoint presentation, undated)
17. DECC Energy Savings Action Plan – October 2008¹
18. Sustainable Transport Plan 2008 – 3 Dec 2008¹
19. University A Learning and Teaching Action Plan (undated)
20. Promotions – National Tree Day, ProjectPaperless, Recycle @ Work (recycleatwork.com.au), VisyWaste, energy education, water savings, World Wetlands Day, Green Home, TurnOff, Green Leaders
21. Report – Developing an Adaptive Model of Thermal Comfort and Preference – 1997

¹ Prepared by MPI Group Australia – commercial in confidence

22. University A Review of Academic Programs White Paper – Aug 2008
23. DECC Environmental Benefits of Recycling Calculator (undated)
24. Water Action Plan (undated) – 2008
25. Environmental Monitoring Tool
26. Sustainability newsletter
27. Air-conditioning policy
28. Fair trade policy
29. Sustainability annual reports 2008, 2009, 2011 and 2012
30. University A Concept Plan
31. Green Paper
32. Sustainability website, including:
 - Vision
 - Sustainability Team
 - Sustainability Working Group
 - Connections – Global, Local, Business
 - University A Enviro Collective
 - Centre for Environmental Law
 - Graduate School of the Environment
 - Education / Learning and Teaching Initiatives
 - Goals, Objectives and Targets for the Future
 - Fair Trade
 - Biodiversity
 - Energy and Emissions
 - Governance
 - Human Resources

- Learning and Teaching
- Planning and Development
- Procurement
- Researchers Network
- Sustainability Reporting
- Transport
- Water
- Waste
- Education for Sustainability

UNIVERSITY B

1. Green Expo Brochure and Schedule
2. University B Regional Community and Engagement Plan 2006-2008
3. University B Research Plan 2004-2008
4. University B Teaching and Learning Plan 2004-2008
5. Strategic Plan 2004-2008
6. University B Making the Difference 2007-2009
7. Annual Reports – 2007, 2008
8. University B Environmental Management System – Manual (undated)
9. Sustainability Strategy – Chart (undated)
10. *Greening University B Action Plan – Interim* (undated, no authority listed, [?] 2007)
11. University B Environmental Management System Risk Register Sep – Dec 2007
12. University B Environmental Legal Risk Register (undated, no authority listed)
13. University B Environmental Management Plan (undated, no authority listed, [?] 2007)
14. University B Environmental Management System Operational Control Procedures – cover page only, further access restricted – [?] 2009

15. University B Movie – 2009
16. Engagement Facilitator Position Description
17. Project documents – green cleaning, green office, Landcare, water saving, worm farms, recycling
18. 2011 sustainability units list
19. IT Program
20. Stocktake of Sustainability 2011
21. Sustainability Framework
22. Sustainability unit newsletters
23. Sustainability website including:
 - University B sustainability website
 - Sustainability Research Node
 - University B Environmental Management Policy – 4 January 2008
 - Environmental Management System – 4 January 2008
 - EMS Operational Control Procedures – 4 January 2008
 - EMS Procedures – 4 January 2008

UNIVERSITY C

1. Strategic Plan 2006-2009
2. Annual Reports – 2007, 2008, 2009
3. Design Guidelines – August 2007 and December 2008
4. Environmental Sustainability Policy – 3 Sep 2008
5. Environmental Sustainability Initiative – Project Charter (16 May 2007) and Student Participation Application (2009)
6. Sustainability Coordinator Position Description
7. Alumni News: C is a 2009 Banksia Award Finalist
8. University C Magazine

9. University C Campus Masterplan
10. Research centre newsletters
11. Green Program 2012
12. Sustainability Strategy 2012-2015 – draft and final
13. Sustainability website, including:
 - Information for Alumni, Staff and Students
 - About C: Environmental Sustainability Initiatives
 - Mission, Values and Recent Commitment
 - Environmental Sustainability Policy
 - Teaching and Learning (including courses with sustainability components)
 - C Research
 - Contacts
 - History and Milestones
 - Ecologically Sustainable Masterplan
 - Operational initiatives (energy, planning and design, procurement, transport, waste and water)
 - Corporate Sustainability Statement

UNIVERSITY F

1. Environmental Management System – *webpage* – 2008
2. University F Annual Reports 2007, 2008, 2009
3. University F Strategic Plan 2007-2011
4. Highlights and Achievements 2007
5. Sustainability Forum 10 September 2008 – Flyer and Programme
6. Advertisement and position description – Environmental Manager – July 2009
7. Policy – Sustainable Energy Management – 24 February 2009

8. Corporate Profile – 2009
9. Research centre profiles and brochures
10. Landscape management plan (undated)
11. Environmental Sustainability Plan 2011-2013
12. Strategic Transport Management Plan 2012
13. Sustainability website, including:
 - Sustainable Energy Management Policy
 - Sustainability Education (unit level only)
 - Campus management practices – energy and carbon emissions; landscape and biodiversity; waste; sustainable transport; water; compliance
 - Research initiatives
 - Teaching and learning outcomes
 - Stakeholder engagement and communication
 - News, events and feedback

APPENDIX 3 – INTERVIEW PARTICIPANT PROFILE

Position	Number of interviewees
Vice-Chancellors	0
Deputy Vice-Chancellors	4
Pro-Vice-Chancellors	5
Faculty Deans	2
Executive Directors	1
Directors/Senior Managers	6
Directors/Heads of Research Centres	5
Managers	3
Heads of School	1
Chair, Academic Boards/Senates	2
Members of Sustainability Committees or equivalent	4
Other	1
Total	34
Deleted Interviews	0
Total interviews utilised for research	34

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Failing the Future: Key Factors Affecting the Management of Environmental Sustainability Programs in Universities in the Sydney Basin and Regions

Interview Protocol and Questions

At the start of each interview:

Return the hardcopy of the interviewee's Participant Information and Consent Form;

1. BRIEF overview + inform the participant about the nature of the interview;
2. Remind participants of voluntary participation and that the interview will be recorded to assist in the research analysis;
3. The participant's interview will be coded so that they cannot be identified in any of the analytical procedures, the thesis or in any published/presented material.

Interview questions:

1. What in your view is the role/responsibilities of universities in a sustainable society?
2. What is your understanding of your university's sustainability program?
3. How successful do you think this has been?
4. What do you think are the internal factors impacting upon the program? <interviewer note: 'anything else?' prompt>
5. What do you think are the external factors impacting upon the program? <interviewer note: 'anything else?' prompt>
6. Where do you think the critical mass of sustainability activity is occurring in your university?
7. At what level do you think the critical mass of sustainability activity is occurring in your university?
8. Why?

WHERE SUCCESSFUL PEOPLE GO TO GO FURTHER

MACQUARIE GRADUATE SCHOOL
OF MANAGEMENT PTY LIMITED
ABN 33 050 059 517

MACQUARIE UNIVERSITY
NSW 2109 AUSTRALIA

WEBSITE: www.mgsm.edu.au
TELEPHONE: +61 2 9850 9038
FACSIMILE: +61 2 9850 9019



9. What do you think are the internal factors impact upon stakeholder participation (e.g., staff, students, external stakeholders) in your university's sustainability program? <interviewer note: 'anything else?' prompt>
10. What do you think are the external factors impact upon stakeholder participation (e.g., staff, students, external stakeholders) in your university's sustainability program? <interviewer note: 'anything else?' prompt>
11. Do you think that the development, implementation and management of sustainability programs is a challenge for universities in terms of their change management practices?
12. Why?
13. Do you think that the development, implementation and management of sustainability programs is a challenge for universities in terms of their leadership practices?
14. Why?
15. Do you think the management of these types of programs is more of a transformational or transactional process, or both?
16. Why?
17. <interviewer note: prepare interviewee with 'I am going to read a statement to you and ask you to respond to that statement'>

Devil's advocate: Evidence suggests that, although universities are recognized as having multiple roles to play in the sustainability-aware society, Australian universities in particular are either not good at, and/or don't care about, implementing sustainability initiatives across their various activities. How would you respond to that?

18. Do you have any other thoughts or comments?

APPENDIX 4 – INTERVIEW PROTOCOL

MGSM RESEARCH



At the end of each interview:

1. Indicate to the participant that this concludes the interview session;
2. BRIEFLY remind the participant that their interviews will be transcribed and analysed, and a follow-up meeting will be arranged with them to discuss the analysis and obtain their agreement as to the findings of the analysis of their interview;
3. Remind the participant that they will be provided with a summary of the research findings at the end of the project, and copies of conferences papers and journal articles as they are published;
4. Ask the participant if they have any questions;
5. Thank the participant for their time.

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APPENDIX 5 – CODING LOGIC

Interview number XX (commencing at '01')

Inst-X Institution + university code number

A = 1

F = 2

B = 3

C = 4

Int-X-x Interview + participant code number (same as interview number).

Sample interview participant code : Inst-1_Int-01

Transcript coding

... A self-initiated pause by a speaker

LB Speaker initials

// Interrupted by other speaker / event. Interruptions are highlighted in bold and blue text

() Could not be deciphered from the audio recording

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**APPENDIX 6 – MACQUARIE UNIVERSITY HUMAN ETHICS COMMITTEE
FINAL APPROVAL: MAY 2009**



Research Office
Research Hub, Building C5C
East Macquarie University
NSW 2109

Phone +61 (0)2 9850 8612
Fax +61 (0)2 9850 4465
Email ro@vc.mq.edu.au

Ethics
Phone +61 (0)2 9850 6848
Email
ethics.secretariat@vc.mq.edu.au

19 May 2009

Ms Lorne Butt
Unit 2, 11-12 Howarth Road
Artarmon NSW 2064

Reference: HE27FEB2009-D06304

Dear Ms Butt,

FINAL APPROVAL

Title of project: Failing the future: key factors affecting the management of environmental sustainability programs in universities in the Sydney Basin and Regions

Thank you for your recent correspondence. Your response has addressed the issues raised by the Ethics Review Committee (Human Research) and you may now commence your research. This approval is subject to the following conditions:

1. Please forward correspondence from institutions indicating their permission to conduct the study when available.
2. Please advise the Committee if the maximum number of participants is likely to be greater than 70. An estimated total would be fine.
3. Please provide relevant documentation as to the negotiated medium agreed to the distribution of the invitation once these details have been finalized in discussion with each institution.

Please note the following standard requirements of approval:

1. Approval will be for a period of twelve (12) months. At the end of this period, if the project has been completed, abandoned, discontinued or not commenced for any reason, you are required to submit a Final Report on the project. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. The Final Report is available at: http://www.research.mq.edu.au/researchers/ethics/human_ethics/forms
2. However, at the end of the 12 month period if the project is still current you should instead submit an application for renewal of the approval if the project has run for less than five (5) years.

ETHICS REVIEW COMMITTEE (HUMAN RESEARCH) MACQUARIE UNIVERSITY
http://www.research.mq.edu.au/researchers/ethics/human_ethics

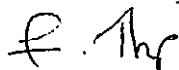
This form is available at [http://www.research.mq.edu.au/researchers/ethics/human ethics/forms](http://www.research.mq.edu.au/researchers/ethics/human_ethics/forms). If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report (see Point 1 above) and submit a new application for the project. (The five year limit on renewal of approvals allows the Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).

3. Please remember the Committee must be notified of any alteration to the project.
4. You must notify the Committee immediately in the event of any adverse effects on participants or of any unforeseen events that might affect continued ethical acceptability of the project.
5. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University:

http://www.research.mq.edu.au/researchers/ethics/human_ethics/policy

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide Macquarie University's Research Grants Officer with a copy of this letter as soon as possible. The Research Grants Officer will not inform external funding agencies that you have final approval for your project and funds will not be released until the Research Grants Officer has received a copy of this final approval letter.

Yours sincerely



Ms Karolyn White
Director of Research Ethics
Chair, Ethics Review Committee (Human Research)

**Cc: Professor Elizabeth More, Macquarie Graduate School of Management,
Professor Gayle Avery, Macquarie Graduate School of Management**

AEN 90952 B21 237 | CMICOS Provider No 00002

APPENDIX 7 – RESULTS MAPPING: DESKTOP FINDINGS, PROGRAM FACTORS AND POSSIBLE IMPACTS

Factor	Possible Impact	Findings from desktop research analysis
External		
Environmental legislation and regulatory mechanisms	<ul style="list-style-type: none"> Universities are unclear as to which legislative instruments they must comply with at both state and Federal levels Universities are under-resourced to deal with what is regarded as ‘the compliance burden’ 	<ul style="list-style-type: none"> Of the four institutions, University B was the only one with a heavily regulatory-focused Environmental Management System Environmental legislation and regulation does not appear to be a main driver for sustainable practice at the other three institutions None of the four institutions have had environmental penalties imposed upon them in the 2007, 2008 or 2009 annual reporting periods
State and Federal government political priorities	<ul style="list-style-type: none"> Universities do not prioritise sustainability because it is not a government priority and there are no real incentives (e.g., funding for research and teaching, capital development) to implement and ‘mainstream’ sustainability 	<ul style="list-style-type: none"> Sustainability in universities is given mainly tokenistic support at both the State and Federal government levels (although universities A and B are members of the NSW Government’s Sustainability Advantage Program¹, which provides support and some level of resources for operational initiatives) The desktop research indicates that government policies regarding sustainability in universities do not appear to be a major driver for university sustainability programs

¹ <http://www.environment.nsw.gov.au/sustainbus/sustainabilityadvantage.htm>

Factor	Possible Impact	Findings from desktop research analysis
External		
International ranking systems	<ul style="list-style-type: none"> Universities do not prioritise sustainability because it is not an assessment component of international ranking systems such as the Shanghai Jiao Tong or the Times Higher Education rankings – i.e. it is not an indicator of reputational value 	<ul style="list-style-type: none"> These four institutions are not engaging in sustainable practice in any expectation of performance rankings improvement as these issues are not connected in any of the evidence Participants do appear to be well aware of the reputational issues attached to sustainable practice from both a business and educational perspective, at least through symbolic gestures such as signing the Talloires Declaration. High-level commitment to sustainable practice (e.g. strategic plans) remains variable
The student body	<ul style="list-style-type: none"> Universities do not sufficiently understand student attitudes towards sustainability, particularly in the face of other student priorities 	<ul style="list-style-type: none"> The desktop research provides little evidence of the basis upon which universities are engaging students in issues of sustainability. Opportunities for engagement are being provided but it is not clear that these universities are tracking student involvement and approaching this as an issue of key stakeholder involvement; or using an evidence-based approach (for example, attitudinal research) to inform participation strategies

Factor	Possible impact	Findings from desktop research analysis
Internal		
Organisational strategy, values and planning processes	<ul style="list-style-type: none"> • Sustainability is not embedded at a high level in institutional visions, missions, strategic plans and value statements. This creates the impression that sustainability is not a priority • Sustainability is embedded at the strategic level but is not 'visible' in the operational planning process and/or there are no targets or KPIs against which to measure progress 	<ul style="list-style-type: none"> • The extent to which this is occurring is variable. There is potential for the two universities who have not been clear at the highest level about their commitment to sustainable practice not being perceived to be genuine/transparent • With the exception of University A, the visibility of sustainability issues at the institutions is variable. Only University A appears to have a management plan with defined goals, objectives, outcomes, accountability structures and performance targets agreed on a whole-of-institution basis
The nature of universities themselves	<ul style="list-style-type: none"> • Universities are hierarchical, bureaucratic, silo-oriented organisations living a hybrid existence between for-profit and not-for-profit expectations and practices. • This 'identity crisis' may be impacting upon the management of sustainability programs 	<ul style="list-style-type: none"> • The desktop research does not provide any direct evidence of this • However, the research does indicate that sustainability programs are not whole-of-institution at three of the universities, and tend to be concentrated on the facilities management or sustainability units • Further, operational initiatives such as major infrastructure and energy/water efficiency projects appear to have a higher profile than issues such as inclusion of sustainability into curriculum

Factor	Possible impact	Findings from desktop research analysis
Internal		
The nature of sustainability programs/initiatives themselves	<ul style="list-style-type: none"> • University-level sustainability programs are not relevant to the whole organisation • Sustainability programs conflict with, rather than complement, strategic and operational priorities • Sustainability programs are <i>ad hoc</i>, poorly designed, patchy in distribution, are not perceived as relevant and/or are not staffed or funded properly • Failure to benchmark against best practice • Failure to establish performance objectives • The ‘rhetoric’ of the program is not translating to the ‘reality’ of employee life • Review and reporting systems are inadequate to track actual progress or regression 	<ul style="list-style-type: none"> • The desktop research indicates a public image of sustainability as being relevant to the whole organisation (e.g. via sustainability websites), but available documentation indicates that with the exception of University A, the universities are not adopting a whole-of-institution approach to their sustainability programs • It is unclear how sustainability programs are aligned with strategic and operational priorities – the findings give the impression that, again with the exception of University A, sustainability initiatives are not generally aligned with strategic/operational priorities • The desktop research provides a clear indication that, despite what has often been a high level of effort over a number of years, sustainability programs at these universities have historically suffered from a ‘stop start’ approach, which is possibly the result of inadequate resourcing/design over the years, and failure to position sustainability as core business • With the exception of University A, there is little to no evidence of the establishment of systematic monitoring and review systems as part of sustainability programs, including benchmarking, setting of performance objectives, or creation of review/tracking/reporting systems outside those required by the annual reporting process • The desktop research does not provide any explicit evidence regarding employee participation or awareness in the institutions’ sustainability programs (e.g. staff survey results). Further, there was no evidence available publicly that these universities were actually surveying staff to examine their workforce attitudes to sustainability

Factor	Possible impact	Findings from desktop research analysis
Internal		
Change management practices	<ul style="list-style-type: none"> • The change management model used to drive sustainability programs is inappropriate and /or not linked with leadership practice • The change management process used to drive sustainability is diluted or inappropriate • There is a lack of high-level support for change management in relation to sustainability • Not all employees are involved in the change management process • Failure to recognise that change agents and leaders may not be the same people – that leaders may initially at least be change targets • Failure to understand the roles of, and interactions between, individuals in the change management ‘cast of actors’ 	<ul style="list-style-type: none"> • The desktop research did not provide clear indications regarding issues of change management or leadership as there was little to no evidence available publicly of the leadership and change management context around the sustainability programs at these universities

Factor	Possible impact	Findings from desktop research analysis
Internal		
Leadership practices	<ul style="list-style-type: none"> • Success or failure in managing sustainability programs is partly dependent upon leadership style – programs are more likely to be successful under more organic styles of leadership, where framing behaviour and empowerment of followers, rather than directive behaviour, is deployed • Leadership practice is not linked with change management practice 	<ul style="list-style-type: none"> • The desktop research did not provide clear indications regarding issues of change management or leadership as there was little to no evidence available publicly of the leadership and change management context around the sustainability programs at these universities
Organisational power structures	<ul style="list-style-type: none"> • There is a failure to understand where authority over sustainability programs lies, versus where influence over sustainability programs lies 	<ul style="list-style-type: none"> • This could not be determined from the desktop research. However, the research does indicate a lack of transparency within these institutions around sustainability, as there tends to be a lack of information (and therefore, transparency) about these universities' sustainability programs in the sense of which areas/positions are responsible for what • Even at University A, the most proactive of the four, the available data gives the impression that the sustainability unit largely carries the responsibility for the entire program (rather than the senior executive or the organisation's governing body, for example)

Factor	Possible impact	Findings from desktop research analysis
Internal		
Organisational workforce	<ul style="list-style-type: none"> Employee attitudes to sustainability are negative/reactive Sustainability is not a part of professional development programs – particularly via development of leaders and as opposed to simply promoting academic staff to senior positions Universities are not aware of, or are failing to take into account, differences in demographic elements of the workforce such as cultural background and their influence upon employee understanding of, and attitudes towards, sustainability Universities are not aware of, or are failing to take into account, the impact of the nature of employment on employee interest in sustainability – particularly via increasing rates of casual/contract employment 	<ul style="list-style-type: none"> The status of employee attitudes within the universities regarding sustainability could not be determined from the desktop research Sustainability education is a mandatory component of professional development programs at University A. The status of sustainability education in professional development programs at the other three universities was unclear The impact of workforce demographics and changing patterns of employment within the universities and the impact of this on participation in/awareness of sustainability programs could not be determined from the desktop research

Factor	Possible impact	Findings from desktop research analysis
Interaction/ Interdependency between external and internal factors	<ul style="list-style-type: none"> External and internal factors are likely to be interacting at different levels concurrently, and, therefore, impacting upon the management of sustainability programs 	<ul style="list-style-type: none"> This was not able to be determined from the desktop research. However external factors, such as legislation and government policy, do not appear to be major drivers of these programs There is some evidence to suggest that external pressures (for example, employer requirements, the need to ensure curriculum is current) are driving some aspects of sustainability programs, namely curriculum renewal (whether on an incremental or transformational basis). There appears to be a variable level of understanding that this is a core business issue and, with the exception of University A, it is not yet being dealt with as a strategic issue, in a proactive manner

APPENDIX 8 – RESULTS MAPPING: DESKTOP AND INTERVIEW FINDINGS, PROGRAM FACTORS AND POSSIBLE IMPACTS

Factor	Possible Impact	Findings from desktop research analysis	Findings from combined interview data analysis
External			
Environmental legislation and regulatory mechanisms	<ul style="list-style-type: none"> Universities are unclear as to which legislative instruments they must comply with at both state and Federal levels Universities are under-resourced to deal with what is regarded as ‘the compliance burden’ 	<ul style="list-style-type: none"> Of the four institutions, University B was the only one with a heavily regulatory-focused Environmental Management System Environmental legislation and regulation does not appear to be a main driver for sustainable practice at the other three institutions None of the four institutions have had environmental penalties imposed upon them in the 2007, 2008 or 2009 annual reporting periods 	<ul style="list-style-type: none"> Analysis of the interview data confirms the findings of the desktop research, in that environmental legislation/regulatory mechanisms were not seen as either a key driver for engaging in sustainable practice, or a major impediment to progress in implementing sustainability initiatives Participating institutions had a clear understanding of their compliance responsibilities and did not view these as a major resource issue

Factor	Possible Impact	Findings from desktop research analysis	Findings from combined interview data analysis
External			
State and Federal government political priorities	<ul style="list-style-type: none"> Universities do not prioritise sustainability because it is not a government priority and there are no real incentives (e.g., funding for research and teaching, capital development) to implement and 'mainstream' sustainability 	<ul style="list-style-type: none"> Sustainability in universities is given mainly tokenistic support at both the State and Federal government levels (although universities A and B are members of the NSW Government's Sustainability Advantage Program¹, which provides support and some level of resources for operational initiatives) The desktop research indicates that government policies regarding sustainability in universities do not appear to be a major driver for university sustainability programs 	<ul style="list-style-type: none"> Sustainability was not viewed by participants as a priority for State and Federal governments in Australia The failure of governments to prioritise sustainability was not regarded as a reason for universities not to engage with sustainable practice. However, the fact that governments do not support sustainability in practice was recognised by all participants as a particular challenge in the development, implementation and management of institutional sustainability programs

¹ <http://www.environment.nsw.gov.au/sustainbus/sustainabilityadvantage.htm>

Factor	Possible Impact	Findings from desktop research analysis	Findings from combined interview data analysis
External			
International ranking systems	<ul style="list-style-type: none"> Universities do not prioritise sustainability because it is not an assessment component of international ranking systems such as the Shanghai Jiao Tong or the Times Higher Education rankings – i.e. it is not an indicator of reputational value 	<ul style="list-style-type: none"> These four institutions are not engaging in sustainable practice in any expectation of performance rankings improvement as these issues are not connected in any of the evidence Participants do appear to be well aware of the reputational issues attached to sustainable practice from both a business and educational perspective, at least through symbolic gestures such as signing the Talloires Declaration. High-level commitment to sustainable practice (e.g. strategic plans) remains variable 	<ul style="list-style-type: none"> Similarly, sustainable practice is not viewed by the participants as a defining characteristic of a university's performance in international rankings However, and again as consistent with the findings of the desktop research, the participants are aware of the threat to institutional credibility that could arise through failure to adopt sustainable practice as part of the business and educational strategies of the organisation

Factor	Possible Impact	Findings from desktop research analysis	Findings from combined interview data analysis
External			
The student body	<ul style="list-style-type: none"> Universities do not sufficiently understand student attitudes towards sustainability, particularly in the face of other student priorities 	<ul style="list-style-type: none"> The desktop research provides little evidence of the basis upon which universities are engaging students in issues of sustainability. Opportunities for engagement are being provided but it is not clear that these universities are tracking student involvement and approaching this as an issue of key stakeholder involvement; or using an evidence-based approach (for example, attitudinal research) to inform participation strategies 	<ul style="list-style-type: none"> The interview analysis noted that students are not the main driver for initiation and implementation of sustainability programs in universities. Sustainability programs are initiated by staff – usually senior staff – with the intention of ensuring the university is responsive to the global organisational trend towards sustainable practice as a central element of core business The interview data confirms the findings of the desktop research in that there appears to be little use of student attitudinal research as part of sustainability program development. However, while accepting that only a small proportion of the student body overall appears to take a deep interest in sustainability initiatives, the four participants continue to provide opportunities for student involvement The analysis identified several issues with students themselves that also contribute to the lack of participation in sustainability initiatives, including the difficulties often experienced when attempting to work with student representatives on decision-making bodies; the usually short tenure of students with universities, when sustainability initiatives can sometimes take several years to demonstrate outcomes; and differing perceptions within institutions themselves about which area is

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
External			
The student body continued			<p>primarily responsible for engaging with students on sustainability issues</p> <ul style="list-style-type: none"> • A critical issue identified in relation to lack of student interest/participation in sustainability programs specifically (and the wider university more generally) was the failure to involve students as stakeholders in the institution itself. The focus on a career/employment as the perceived key outcome of a university education was identified as being pivotal to the increasing lack of student interest in the life of the universities

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
Organisational strategy, values and planning processes	<ul style="list-style-type: none"> • Sustainability is not embedded at a high level in institutional visions, missions, strategic plans and value statements. This creates the impression that sustainability is not a priority • Sustainability is embedded at the strategic level but is not 'visible' in the operational planning process and/or there are no targets or KPIs against which to measure progress 	<ul style="list-style-type: none"> • The extent to which this is occurring is variable. There is potential for the two universities who have not been clear at the highest level about their commitment to sustainable practice not being perceived to be genuine/transparent • With the exception of University A, the visibility of sustainability issues at the institutions is variable. Only University A appears to have a management plan with defined goals, objectives, outcomes, accountability structures and performance targets agreed on a whole-of-institution basis 	<ul style="list-style-type: none"> • Interview findings indicated that, with the exception of University A, sustainable practice in the participating institutions is not fully aligned with organisational strategy. Further, sustainability does not tend to be conceptualised as an issue of change and renewal • Three of the four participants did not have robust mechanisms in place against which to measure progress, despite recognition by the senior executive level that performance accountability is a crucial component of sustainability programs

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
The nature of universities themselves	<ul style="list-style-type: none"> Universities are hierarchical, bureaucratic, silo-oriented organisations living a hybrid existence between for-profit and not-for-profit expectations and practices. This 'identity crisis' may be impacting upon the management of sustainability programs 	<ul style="list-style-type: none"> The desktop research does not provide any direct evidence of this However, the research does indicate that sustainability programs are not whole-of-institution at three of the universities, and tend to be concentrated on the facilities management or sustainability units Further, operational initiatives such as major infrastructure and energy/water efficiency projects appear to have a higher profile than issues such as inclusion of sustainability into curriculum 	<ul style="list-style-type: none"> The interview data indicated that the prevalence of structural/cultural silos in universities, and the barriers to communication that result, are viewed as problematic in relation to any issue of change – including sustainable practice Poor change management practices were cited as equally damaging to sustainability initiatives This contrasts with participant views that being a model of sustainable practice is key to being a modern university The lack of coherent policy and a cohesive position on sustainable practice by Australian universities on a sectoral level is viewed by participants as divisive, and damaging to institutional efforts to develop the sector as a champion for sustainable practice in society and organisations more widely

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
The nature of sustainability programs/initiatives themselves	<ul style="list-style-type: none"> University-level sustainability programs are not relevant to the whole organisation Sustainability programs conflict with, rather than complement, strategic and operational priorities Sustainability programs are <i>ad hoc</i>, poorly designed, patchy in distribution, are not perceived as relevant and/or are not staffed or funded properly Failure to benchmark against best practice Failure to establish performance objectives The ‘rhetoric’ of the program is not translating to the ‘reality’ of employee life Review and reporting systems are inadequate to track actual progress or regression 	<ul style="list-style-type: none"> The desktop research indicates a public image of sustainability as being relevant to the whole organisation (e.g. via sustainability websites), but available documentation indicates that with the exception of University A, the universities are not adopting a whole-of-institution approach to their sustainability programs It is unclear how sustainability programs are aligned with strategic and operational priorities – the findings give the impression that, again with the exception of University A, sustainability initiatives are not generally aligned with strategic/operational priorities The desktop research provides a clear indication that, despite what has often been a high level of effort over a number of years, sustainability programs at these universities have historically suffered from a ‘stop start’ approach, which is possibly the result of inadequate resourcing/design over the years, and failure to position sustainability as core business 	<ul style="list-style-type: none"> The interview data analysis also noted that sustainability programs suffer from a failure to adopt a ‘whole of institution’ approach – including the development of associated governance, planning and performance management, accountability and reporting systems While staffing, funding and resourcing were identified as issues affecting sustainability programs, they were not regarded as the main impediments to achievement of program objectives. Rather, they were recognised as symptomatic of deeper problems in universities relating to leadership, change management, and structural/cultural resistance In particular, none of the four universities had implemented sustainable practice to a stage where it was accepted or managed as a core workforce responsibility, organisation-wide. Of the four, University A had made the most notable progress in this regard There was a tendency to hold the sustainability manager responsible for all aspects of the sustainability program, even while it was also admitted that the scope of responsibility for these types of programs, and the complexity they entail, was far beyond the capability of one staff member

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
The nature of sustainability programs/initiatives themselves continued		<ul style="list-style-type: none"> • With the exception of University A, there is little to no evidence of the establishment of systematic monitoring and review systems as part of sustainability programs, including benchmarking, setting of performance objectives, or creation of review/tracking/reporting systems outside those required by the annual reporting process • The desktop research does not provide any explicit evidence regarding employee participation or awareness in the institutions' sustainability programs (e.g. staff survey results). Further, there was no evidence available publicly that these universities were actually surveying staff to examine their workforce attitudes to sustainability 	

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
Change management practices	<ul style="list-style-type: none"> • The change management model used to drive sustainability programs is inappropriate and /or not linked with leadership practice • The change management process used to drive sustainability is diluted or inappropriate • There is a lack of high-level support for change management in relation to sustainability • Not all employees are involved in the change management process • Failure to recognise that change agents and leaders may not be the same people – that leaders may initially at least be change targets • Failure to understand the roles of, and interactions between, individuals in the change management ‘cast of actors’ 	<ul style="list-style-type: none"> • The desktop research did not provide clear indications regarding issues of change management or leadership as there was little to no evidence available publicly of the leadership and change management context around the sustainability programs at these universities 	<ul style="list-style-type: none"> • Refer above section in relation to the nature of universities and the impact of structural and cultural silos on change initiatives; and also section below in relation to leadership practice • However, the analysis also indicated a clear understanding by senior executives about the need for socialised change management practices. It is not clear from the analysis as to whether all senior executive members participating in this research are ‘walking the talk’ in relation to sustainability; it may also be that change is being disabled at lower-level management positions. In turn, this could be exacerbating the effect of structural and cultural silos as barriers to change • Lack of a change management framework (i.e., process, pathways and identified responsibility for decision-making) was also identified as a barrier to implementation of sustainability initiatives

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
Leadership practices	<ul style="list-style-type: none"> Success or failure in managing sustainability programs is partly dependent upon leadership style – programs are more likely to be successful under more organic styles of leadership, where framing behaviour and empowerment of followers, rather than directive behaviour, is deployed Leadership practice is not linked with change management practice 	<ul style="list-style-type: none"> The desktop research did not provide clear indications regarding issues of change management or leadership as there was little to no evidence available publicly of the leadership and change management context around the sustainability programs at these universities 	<ul style="list-style-type: none"> Interview data indicated a clear recognition of the need for sustainability-educated, proactive leadership However, the analysis also found that the leadership models currently in place in universities – including leadership development, culture and promotion practices – are not compatible with the leader behaviour required to embed sustainable practice as part of core business. There was a lack of understanding about how to develop and implement the leadership models required to support sustainability program implementation However, performance accountability was understood to be a necessity in relation to sustainability programs, in relation to demonstration of achievement against identified goals and objectives; and also as part of embedding sustainability into decision-making frameworks Leadership and change management were often viewed as mutually exclusive concepts. This perspective was more prominent amongst interviewees who viewed change management as an industrial issue EfS was, in particular, viewed as an area of sustainable practice that continues to suffer from a lack of leadership

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
Leadership practices continued			<ul style="list-style-type: none"> • Short-termism, failure to identify appropriate responsibilities, and a tendency to view the sustainability manager as the default custodian of all sustainability issues (including EfS) has the effect of shifting accountability and ownership away from the senior executive • Those in senior executive positions often displayed a lack of consistent understanding about institutional strategic initiatives and which executive portfolio was responsible for what in relation to sustainability initiatives. This was particularly problematic in relation to EfS issues
Organisational power structures	<ul style="list-style-type: none"> • There is a failure to understand where authority over sustainability programs lies, versus where influence over sustainability programs lies 	<ul style="list-style-type: none"> • This could not be determined from the desktop research. However, the research does indicate a lack of transparency within these institutions around sustainability, as there tends to be a lack of information (and therefore, transparency) about these universities' sustainability programs in the sense of which areas/positions are responsible for what • Even at University A, the most proactive of the four, the available data gives the impression that the sustainability unit largely carries the responsibility for the entire program (rather than the senior executive or the organisation's governing body, for example) 	<ul style="list-style-type: none"> • Explicit relationships between the interview data and organisational power structures were not identified • However, the analysis indicated the clear disconnect that exists between (at least intellectual) understandings of the importance of universities to sustainable societies, and the ongoing lack of achievement by universities in relation to their own sustainability programs (including more widely as advocates for change in society) • Refer also leadership practices above relating to issues of ownership, accountability and responsibility

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Internal			
Organisational workforce	<ul style="list-style-type: none"> Employee attitudes to sustainability are negative/reactive Sustainability is not a part of professional development programs – particularly via development of leaders and as opposed to simply promoting academic staff to senior positions Universities are not aware of, or are failing to take into account, differences in demographic elements of the workforce such as cultural background and their influence upon employee understanding of, and attitudes towards, sustainability Universities are not aware of, or are failing to take into account, the impact of the nature of employment on employee interest in sustainability – particularly via increasing rates of casual/contract employment 	<ul style="list-style-type: none"> The status of employee attitudes within the universities regarding sustainability could not be determined from the desktop research Sustainability education is a mandatory component of professional development programs at University A. The status of sustainability education in professional development programs at the other three universities was unclear The impact of workforce demographics and changing patterns of employment within the universities and the impact of this on participation in/awareness of sustainability programs could not be determined from the desktop research 	<ul style="list-style-type: none"> Interview data analysis illustrated the dichotomy in the university environment of the academic workforce – whose loyalty is predominantly towards a discipline area – and the non-academic workforce – whose loyalty is predominantly towards the university itself This issue may mean that a ‘one size fits all’ approach to engagement and communications strategies, in particular, for sustainability programs is inappropriate This in turn is reflective of the relationships between communication, change management, and leadership – refer the section on interdependencies below

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Interaction/ Interdependency between external and internal factors	<ul style="list-style-type: none"> External and internal factors are likely to be interacting at different levels concurrently, and, therefore, impacting upon the management of sustainability programs 	<ul style="list-style-type: none"> This was not able to be determined from the desktop research. However external factors, such as legislation and government policy, do not appear to be major drivers of these programs There is some evidence to suggest that external pressures (for example, employer requirements, the need to ensure curriculum is current) are driving some aspects of sustainability programs, namely curriculum renewal (whether on an incremental or transformational basis). There appears to be a variable level of understanding that this is a core business issue and, with the exception of University A, it is not yet being dealt with as a strategic issue, in a proactive manner 	<ul style="list-style-type: none"> In terms of internal factors, poor leadership and change management were most strongly connected. Key issues include failure to lead and manage change in relation to sustainable practice, and also failure to understand sustainability as primarily an issue of change Workload, funding, staffing and resourcing were all identified as problems affecting sustainability programs. However, they were also noted by participants as being symptomatic of deeper, more systemic problems relating to leadership, change management, organisational culture and structural silos, along with resultant barriers relating to communication, collaboration and opportunity to influence practice and behaviour Change management disconnects at different levels of management were recognised as worsening the effects of structural and cultural silos Industry/professional bodies, course accreditation panels, review boards, national and international frameworks and changing market requirements in relation to employee skills and knowledge were all recognised as significant external factors exerting pressure on universities to implement sustainable practice as a key component of both core business, and graduate capabilities However, interview data analysis indicated that internal and external factors do not appear to be interacting in any significant way to accelerate the

Factor	Possible impact	Findings from desktop research analysis	Findings from combined interview data analysis
Interaction/ Interdependency between external and internal factors continued			<p>implementation of sustainability programs in the participating institutions</p> <ul style="list-style-type: none"> • In contrast, the internal forces at work in universities relating to leadership, change management and organisational culture appear to have equated in the participating institutions to a high level of internal resistance to external drivers of change. This is despite the fact that all four universities clearly identified the importance of learning, teaching and research in relation to sustainability as being critical to enabling more sustainable societies, and ways of living and working, into the long-term

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APPENDIX 9 – PUBLICATIONS

Thesis-related publications and other activities:

Book Chapter:

Butt, L., More, E. and Avery, G. (2013). Sustainability education and professional development programs for managers in Australian universities. In: *Sustainable Leadership – New Research and Fresh Thoughts: Volume 1*. G.C. Avery and B. Hughes (eds). Tilde University Press, Prahran.

Refereed Journal Article:

Butt, L., More, E., and Avery, G.C. (2013). The myth of the “green student”: student involvement in Australian university sustainability programs. *Studies in Higher Education*. 39(5). pp 786-804.

Peer-Reviewed Conference Proceedings:

Butt, L., More, E., and Avery, G. (2013). Mission critical – sustainability education as core business in Australian universities. In: *Proceedings of the 2013 Institute for Sustainable Leadership Conference*. Institute for Sustainable Leadership, Sydney.

Butt, L., More, E., and Avery, G. (2012). Commitment versus reality – translating good intentions into performance outcomes in sustainability programs in Australian universities. *Presentation delivered as part of the 2012 Institute for Sustainable Leadership Conference in partnership with The Clute Institute. Rome, Italy*. In: *Proceedings of the 2012 European Applied Business Research Conference*. Clute Institute, Colorado.

Butt, L., More, E. and Avery, G. (2011). Sustainable practice in Australian universities and “the green student” – impacts on decision-making. In: *Proceedings of the 2011 British Academy of Management Conference*. British Academy of Management, London.

Butt, L., More, E. and Avery, G. (2011). Sustainable practice in universities – leading and championing change. *Presentation delivered as part of the 2011 Institute for Sustainable Leadership Conference in partnership with The Clute Institute. Barcelona, Spain.* In: *Proceedings of the 2011 European Applied Business Research Conference.* Clute Institute, Colorado.

Butt, L., More, E. and Avery, G. (2009). Sustainability education and professional development programs for managers in Australian universities. In: *Proceedings of the 23rd Australia New Zealand Academy of Management Conference.* ANZAM, New Zealand.

Paper delivered as part of the Australia New Zealand Academy of Management (ANZAM) Symposia Series on Leadership and Sustainability, presented by the Macquarie Graduate School of Management Institute for Sustainable Leadership.

Butt, L., More, E. and Avery, G. (2009). Managing for the future in higher education: sustainability, leadership and change management. In: *Proceedings of the 2009 British Academy of Management Conference.* British Academy of Management, London.

Peer-Reviewed Conference Presentation (unpublished):

Butt, L., More, E. and Avery, G. (2009). Alliances for the sustainable enterprise economy: the potential for universities as sustainability hubs? *Presentation delivered at the 2009 Asia Pacific Academy of Business in Society Conference, Brisbane, Australia, 5-6 November 2009.*

Conference Presentations:

2013 *Institute for Sustainable Leadership, Nice, France.*

Butt, L., More, E., and Avery, G. (2013). Mission critical – sustainability education as core business in Australian universities.

Paper received Highly Commended Award

2012 *Institute for Sustainable Leadership / European Applied Business Research Conference*, Rome, Italy.

Butt, L., More, E., and Avery, G. (2012). Commitment versus reality – translating good intentions into performance outcomes in sustainability programs in Australian universities.

Paper received Highly Commended Award

2011 *British Academy of Management*, Birmingham, United Kingdom.

Butt, L., More, E. and Avery, G. (2011). Sustainable practice in Australian universities and “the green student” – impacts on decision-making.

Institute for Sustainable Leadership / European Applied Business Research Conference, Barcelona, Spain

Butt, L., More, E. and Avery, G. (2011). Sustainable practice in universities – leading and championing change.

2009 *23rd Australia New Zealand Academy of Management Conference*, Melbourne, Australia

Butt, L., More, E. and Avery, G. (2009). Sustainability education and professional development programs for managers in Australian universities.

Asia Pacific Academy of Business in Society, Brisbane, Australia

Butt, L., More, E. and Avery, G. (2009). Alliances for the sustainable enterprise economy: the potential for universities as sustainability hubs?

British Academy of Management, Brighton, United Kingdom

Butt, L., More, E. and Avery, G. (2009). Managing for the future in higher education: sustainability, leadership and change management.

Industry Panel:

Butt, L. (2009). Alliances for the sustainable enterprise economy: the potential for universities as sustainability hubs. *Asia Pacific Academy of Business in Society Conference, Brisbane, Australia.*

Review Activity – Journals:

International Journal of Sustainability in Higher Education
Studies in Higher Education

Review Activity – Conferences:

2014 Peer reviewer for:

- *Institute for Sustainable Leadership Conference, Salzburg, Austria.*
- *British Academy of Management Conference, Belfast, Northern Ireland.*
 - Leadership and Leadership Development Special Interest Group
- *Australia New Zealand Academy of Management Conference, Sydney, Australia.*
 - Sustainability and Social Issues in Management Track
- *Australasian Campuses Towards Sustainability Conference, Hobart, Australia.*

2013 Peer reviewer for:

- *Institute for Sustainable Leadership Conference, Nice, France.*
- *British Academy of Management Conference, Liverpool, UK.*
 - Leadership and Leadership Development Special Interest Group
- *Australia New Zealand Academy of Management Conference, Hobart, Australia.*
 - Best Reviewer: Sustainability and Social Issues in Management Stream
- *Australasian Campuses Towards Sustainability Conference, Sydney, Australia.*

- 2012 Peer reviewer for:
- *Institute for Sustainable Leadership Conference*, Rome, Italy.
 - *British Academy of Management Conference*, Cardiff, Wales:
 - Leadership and Leadership Development Special Interest Group
 - *Australia New Zealand Academy of Management Conference*, Perth, Australia:
 - Sustainability and Social Issues in Management Track
- 2011 Peer reviewer for:
- *British Academy of Management Conference*, Birmingham, UK:
 - Corporate Social Responsibility Special Interest Group
 - Leadership and Leadership Development Special Interest Group
 - *Institute for Sustainable Leadership Conference*, Bangkok, Thailand.

Grants:

- 2011 Macquarie Graduate School of Management – \$7,600
- *Awarded to attend 2011 British Academy of Management Conference, United Kingdom, and the Clute Institute European Applied Business Research Conference, Spain*
- 2009 Institute for Sustainable Leadership Research Grant, Macquarie Graduate School of Management – \$1,900
- *Awarded to attend 2009 British Academy of Management Conference, United Kingdom*

Other publications and activities:

Edited Volumes:

L. Butt and G.C. Avery (eds.). (2014). *Proceedings of the 9th International Symposium of Sustainable Leadership, 2014*. Sydney, Australia.

Book Chapters:

Butt, L. and Sarker, T. Country Chapter – Papua New Guinea. In: *The World Guide to Sustainable Enterprise 2015*. Visser, W. (ed). (Submitted for final review).

Refereed Journal Article:

Morrison, D.A., **Butt, L.**, Holland, D., and Westbury, A.-M. (2001). Natural revegetation of an abandoned quarry, Sydney. *Cunninghamia*. 7: 157-171.

Peer-Reviewed Conference Proceedings:

Butt, L., and Bennett, A. (2013). The LiFE index: early learnings and great expectations. In: *Proceedings of the 13th Australasian Campuses Towards Sustainability Conference*. ACTS, Sydney.

Butt, L. (2006). Myth as a substitute for transformational leadership in relation to organisational citizenship behaviour. In: *Proceedings of the 3rd International Conference on Contemporary Business*. P.K. Basu, G. O'Neill and A. Travaglione (eds). Charles Sturt University, Bathurst, NSW.

Butt, L. Carter, R., Lisle, S. and Rawling, J. (2004). Measuring and evaluating performance in weed management projects. In: *Proceedings of the 14th Australian Weeds Conference*. B.M. Sindel and S.B. Johnson (eds). Weed Society of New South Wales, Sydney. Abstract only.

Conference Presentations:

2013 *Australasian Campuses Towards Sustainability*, Sydney, Australia.

Butt, L., and Bennett, A. (2013). The LiFE index: early learnings and great expectations.

2006 *3rd International Conference on Contemporary Business*, Leura, NSW, Australia

Butt, L. (2006). Myth as a substitute for transformational leadership in relation to organisational citizenship behaviour.

Industry Panels:

Butt, L. (2013). From laughing stock to respected leader. *Presented in professional capacity as TAFE NSW Western Institute Sustainability Coordinator as part of industry panel session with Queensland Police on organisational sustainable practice*. 2013 Institute for Sustainable Leadership Conference, Nice, France.

Butt, L. (2012). Building a case for sustainable practice. *Presented in professional capacity as TAFE NSW Western Institute Sustainability Coordinator as part of industry panel session with Deloitte, Switzerland and Crown Property Bureau, Thailand on organisational sustainable practice.* 2012 Institute for Sustainable Leadership Conference, Rome, Italy.

Book Review:

2013 Tyler Miller, G. and Spoolman, S.E. (2013). *Environmental Science – 14th Edition.* Brookes/Cole, Belmont. For: *Australian Journal of Environmental Education*, 29(1), pp 117-119.

Consulting Project:

APM Group – United Kingdom

May 2012 – December 2012

http://www.apmg-international.com/APMG-UK/APMG-UK_home.aspx

Curriculum developer/reviewer – Sustainability in Business Accreditation/
Examination Manual

Boards / Directorships

Institute for Land, Water and Society – Charles Sturt University

Member, Advisory Board, and Adjunct Research Associate: 2012 – current

Institute for Sustainable Leadership Ltd ACN 149 112 425

Director and Company Secretary: 2011 – current

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