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How Academics in Undergraduate Business Programs at an Australian University View Sustainability

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Abstract This article explores conceptualisations of sustainability and perceptions of its importance in curriculum held by business subject and program leaders. Results are reported from an empirical study of the first-year Bachelor of Business program at an Australian university. Research data was collected in 16 semi-structured, in-depth interviews with subject and program leaders over two teaching periods in 2011. Interview transcripts were analysed through the identification of key themes. The results reveal that teaching academics believe sustainability is something more dynamic and complex than they are able to feature in their subjects, reflecting the difficulty in appropriately conceptualising sustainability, as well as differences between the academics' beliefs, intentions and actions. Few studies explore the conceptualisations of sustainability held by subject and program leaders. If business schools are to produce sustainability-savvy graduates, the teaching academics need to have a clear and, ideally, shared view of sustainability.

While much has been written about the need for education to capture the sustainability imperative (e.g., von der Heidt & Lamberton 2011), there is no clear evidence within business education that either staff or students are increasing their engagement with, or prioritising, sustainability ideas. According to some (Barlett, 2008; Bates, Silverblatt, & Kleban, 2009; Springett, 2005), business schools are lagging behind other disciplines and business sustainability leaders in terms of 'going green'. The same has been said about tourism schools, which in Australia are most often housed within a distinctly business/management paradigm (Dredge et al., 2010; Wilson, Harris, & Small, 2008). Notwithstanding sustainability leadership initiatives by some universities, most are inherently conservative and highly fragmented institutions (James, 2002), which tend to sustain and reinforce the dominant capitalist paradigm of production and consumption (Haigh, 2005). As a consequence of these institutional barriers, conventional curricula of business and tourism schools may reproduce socially and ecologically unsustainable values of an affluent consumer society.

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This article focuses on the role of sustainability in the undergraduate business curriculum. The field of curriculum has many different meanings, such as a plan, the experience of learners, a system, a field of study, or subject matter (Ornstein & Hunkins, 2004). Viewed holistically, curriculum is an 'educational vehicle' that helps drive students' learning journey towards transforming them into individuals with the potential of flourishing 'in a world of simultaneous unpredictable and contending challenges' (Barnett & Coate, 2007, p. 55). Two types of curriculum are generally distinguished (Barnett & Coate, 2005): the 'designed-in-advance' curriculum (i.e., the planned curriculum captured on paper in course proposals, subject outlines and other curriculum-related documents) and the 'curriculum-in-action', which includes the planned curriculum, as well as the pedagogy, the student experience, the assessment process and the student learning. The curriculum in action is a vital means for university educators to help students with sustainable and lifelong learning (Boud, 2000), which is understood as the ongoing, voluntary and self-motivated pursuit of knowledge for either personal or professional reasons (Field, 2006).

Students' (and instructors') sustainable, lifelong learning skills may be viewed as a prerequisite for effectively capturing sustainability in education. We use the term 'EafS' to cover both education *about* sustainability (EaS), which deals with content and knowledge-based, transmissive learning about sustainability, and education *for* sustainability (EfS). EfS involves motivating, equipping and engaging individuals and groups in critically examining assumptions and beliefs and in making informed choices about how to move toward a more sustainable world (Tilbury, Crawley, & Berry, 2004). The body of extant empirical work on EafS in higher education curriculum can be broadly categorised into three main themes. First, as shown in Table I, some of the extant empirical work on EafS in business higher education has focused on academics' understanding of sustainability (e.g., Reid & Petocz, 2006). These studies highlight the range of conceptualisations held by academics across disciplines, but not specifically by those teaching within the business discipline.

Also evident from the research summarised in Table 1 is the diverse range of conceptualisations of sustainability across business, senior faculty members and among students. In the European study (Segalas, Muler, & Ferrer-Balas, 2012), students initially perceived sustainability as a technical problem with a scientific solution; whereas teaching staff more experienced with sustainability issues emphasised the social component of sustainability. Of more concern from these studies is the apparent incomplete nature of conceptualising sustainability among senior faculty members (Wright & Horst, 2013) and business leaders (Byrch, Kearins, Milne, & Morgan, 2007).

A second group of studies focus on EafS in higher education curriculum (see Table 2 for a summary). These studies tend to cover single issues, such as barriers to EafS (Down, 2006; Leihy & Salazar, 2011), naming of EafS programs (Sherren, 2008), and characteristics of green curriculum (de Ciurana & Filho, 2006). Research that considers broader curriculum issues of EafS is limited in terms of relying on externally published information, that is, websites (Fischer & Bonn, 2010; Rundle-Thiele & Wymer, 2010), using a small convenience sample across disciplines (Macquarie University, 2009), looking at EafS in general business program structure (Naeem & Neal, 2012), or being at the MBA level only (Tilbury et al., 2004).

The empirical studies summarised in Table 2 find few compulsory sustainability subjects in undergraduate or postgraduate programs, limited inclusion of sustainability in business and management curricula, and significant barriers (including lack of qualified staff, faculty support or demand) to implementing EafS in Australian MBA programs.

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TABLE 1: Empirical Studies of Sustainability Conceptualisations in Higher Education

Research issue	Method	Key finding	Source
How do thought leaders and influencers in New Zealand view 'sustainable development'?	Cognitive mapping of 21 people from 21 organisations	Business promoters emphasised the economic domain; sustainability promoters emphasised the environmental domain and promoters of sustainable business emphasised both.	(Byrch et al., 2007)
How do academics of postgraduate subjects understand sustainability within their own discipline and include ideas of sustainability in their teaching?	Interviews with 14 academics across disciplines at Macquarie University, Australia	Outcome space with three conceptions of teaching in sustainability (disparate, overlapping and integrated) and three conceptions of sustainability in teaching (distance, resources and justice).	(Reid & Petocz, 2006)
How do experts teaching sustainability in engineering contextualise sustainability compared with students at 5 European universities?	Analysis of experts' concept maps, compared with student survey data (n = 500)	Experts give more value to the sociological role of sustainability (social impact, unbalances, future) and how problems of sustainability can be solved. Students initially see sustainability as a scientific-technological subject to avoid and solve environmental problems.	(Segalas et al., 2012)
How do faculty leaders conceptualise sustainable development, sustainable universities and barriers to sustainability initiatives?	Interviews with 32 senior faculty members at Canadian universities	Most participants had given thought to some SD aspects (resource use, growth and ecology) but not others (society, culture). Most saw the need to educate students about sustainability. Faculty opinions on sustainable development vary; understanding is not consistent.	(Wright & Horst, 2013)
What process is followed to reorient the curriculum to sustainability across seven groups, including business?	Two action research cycles at Edith Cowan University, Australia	Five themes emerged: different discourse, means for achieving interconnectedness, networking shared meanings of sustainability. The latter were analysed in terms of each program and four pillars of sustainability.	(Wooltorton et al., 2011)

TABLE 2: Empirical Studies of EafS Curriculum in Higher Education

Research issue	Method	Key finding	Source
How is sustainability integrated in teaching, research and operationally in different higher education institutions?	24 interviews with different stakeholders at eight German HE institutions	Three distinct patterns of implementation: (1) student-led change from informal to formal learning; (2) sustainability as a concern in campus operation; (3) sustainability as a branding.	(Barth, 2013)
How important is a focus on ethics in sustainability education?	Case study, including student survey, of one PG program at one U.S. university.	A subject on ethical principles related to sustainability is useful. In-class activities most influenced student learning and behaviour.	(Biedenweg, Monroe, & Oxarart, 2013)
How can a university curriculum geared towards sustainability be characterised?	Action research involving 11 European and Latin American universities	Greened curriculum comprises 10 components (exploring alternative scenarios; methodological adaptation; space for reflection and democratic participation; commitment to transforming the relationship between society and nature; complexity; disciplinary level; local-global context; take account of subject in construction of knowledge; consider cognitive and affective, ethical and aesthetic aspects; coherence and reconstruction between theory and practice). The model can be used to orientate and drive innovative approaches and methodologies for teaching towards sustainability.	(de Ciurana & Filho, 2006)
How to mainstream EafS in non-science disciplines? (What are main challenges and how to address?)	Case study of EafS in two computer subjects	Early student support for the initiatives is important. EafS must not displace program objectives. Natural entry points to introducing EafS should be used. EafS must be conceptualised in ways that are relevant.	(Down, 2006)
To what extent is business sustainability being incorporated into undergraduate business & management programs in Australian universities?	Content analysis of program and subject descriptions on websites of 40 universities	More than half of universities did not explicitly identify sustainability as part of their business/management curricula. Those that did, did so mostly in a limited way.	(Fischer & Bonn, 2010)

TABLE 2: Continued

Research issue	Method	Key finding	Source
What are the broad challenges that face the advancement of EafS in Australia's Victorian universities?	Undisclosed number of interviews with academics at eight Victorian universities	EafS policy and practice needs to be better coordinated. Each university produces its own kind of EafS according to institutional context. Many opportunities for EafS. Important to promote the merits rather than the requirements of EafS.	(Leihy & Salazar, 2011)
How is sustainability embedded in statistics, business, arts, linguistics and MBA curriculum at Australia's Macquarie University?	Interviews with four academics and one student	UN DESD is being interpreted in a range of ways at Macquarie University. There is plenty of room for different approaches. In all cases, starting point is discussion and debate about what sustainability could mean in a particular disciplinary context.	(Macquarie University, 2009)
To what extent is sustainability integrated into business school education (UG and PG)?	Survey of 48 business schools in Asia-Pacific	Few offered core subjects in sustainability (2% UG; 12% PG) Although importance of sustainability was realised, few incorporated it in teaching.	(Naeem & Neal, 2012)
To what extent do marketing educators in Australia and New Zealand use dedicated programs in ethics, SR and sustainability?	Content analysis of web marketed programs of 47 universities.	One quarter of universities offer dedicated ethics, SR or sustainability subjects. Marketing educators appear to place more emphasis on SR and ethical training that on sustainability.	(Rundle-Thiele & Wymer, 2010)
How meaningfully are Australian environmental and sustainability under- and postgraduate programs named?	Internet-based audit and quantitative analysis of 77 core curricula.	Few programs use the term 'sustainable' in their name (especially at undergrad. level). Web marketing suggests that programs do explicitly aim to educate for sustainability. Rebalancing toward the human elements is necessary to educate for sustainability, not just environment.	(Sherren, 2008)
What EafS exists in MBAs in Australia? What is current best practice and how does this compare internationally?	Websites of 33 MBA programs in Australia and interviews with faculty members of four universities	The skills need to empower graduates for strategic change toward sustainability are lacking in majority of Australian MBA degrees. The main barriers to EafS are lack of qualified staff, lack of faculty support and lack of demand.	(Tilbury et al., 2004)

Note: UG = undergraduate, PG = postgraduate, UN DESD = UN Decade of Education for Sustainable Development.

A third theme emerging from the body of empirical EafS in higher education research, summarised in Table 3, concerns the study of impacts of particular EafS initiatives, such as problem-based learning (Dobson & Tomkinson, 2012; MacVaugh & Norton, 2012), faculty development programs (Barlett, 2008) and prioritisation of EafS research (Brundiers & Wiek, 2011).

The overall trend from the studies summarised in Table 3 is that sustainability learning outcomes benefit from the implementation of advanced learning frameworks such as problem-based learning and knowledge-skills-attitudes, which actively engage the learner in working through the complex layers of sustainability. The collection of studies included in Tables 1, 2 and 3 attest to the diversity of approaches to teaching sustainability. Higher education research into mainstreaming EafS, particularly comparing faculty perceptions, approaches and integration within specific programs and disciplines, is acknowledged as a research priority (Wright, 2007).

Most students enter the workforce prior to undertaking postgraduate education (University of Sydney, 2009), and any shortcomings in undergraduate business education could have widespread implications (Fischer & Bonn, 2010). Hence, the first year of undergraduate studies is particularly important: It grounds students' critical awareness about sustainability and its role in business and tourism in a cross-disciplinary context, and provides a sound platform for developing EafS skills in later, more advanced subjects. Despite a growing body of work, our understanding of EafS in the early stages of undergraduate business curriculum is limited. To date, no published empirical study has drawn directly on the internally published curriculum to establish how sustainability is embedded in individual subjects across a program or set of core subjects in undergraduate business programs. Further, there is minimal research into the diversity of views as to how sustainability is conceptualised by the academics engaging in these initiatives, a research gap specifically addressed in this article.

To address these knowledge gaps, a comprehensive audit and evaluation of current embeddedness of sustainability in the first-year Bachelor of Business (BBus) curriculum was recently undertaken and compiled as an internal report. This paper provides findings from the study with respect to academics' conceptualisation of sustainability and its importance to curriculum. Findings related to barriers and challenges of teaching sustainability in the BBus curriculum have been published elsewhere (Wilson & von der Heidt, 2013), as will be those relating to the operationalisation of EfS in curriculum. Overall, through its multi-subject, multi-method design, this study adds to an understanding of the broad range of issues related to integrating EafS in higher education curriculum.

The Research Questions

Part of understanding how EafS features in a subject (or unit) is gaining insight into how the academic responsible for the subject — especially in an area that does not traditionally focus on sustainability — conceptualises or thinks about sustainability and gives meaning to sustainability within a specific subject or program. Hence the primary research question which the findings in this article answers is: How do academics conceptualise and feature sustainability in first-year business subjects?

Our approach is somewhat different to that of Reid and Petocz (2006), who investigated conceptions of sustainability in the context of teaching and conceptions of teaching for sustainability. We wish to start by exploring academics' personal understanding of sustainability outside of their teaching space — first, without prompting; then with reference to an accepted conceptualisation of sustainability. We also aim to establish the extent to which academics' personal beliefs correspond with their curriculum actions.

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TABLE 3: Empirical Studies of Particular EafS Initiatives in Higher Education

Research issue	Method	Key finding	Source
What is the impact of three sustainability activities in an undergraduate marketing subject?	Treatment and interviews in 18 subjects with 1000 students at two U.S. universities.	Students who participated in exercises offered more detailed and thought-provoking responses with greater willingness to take responsibility for their actions and implications of these actions on sustainability.	(Albinsson, Perera, & Sautter, 2011)
What is the impact of faculty development program (workshop, fieldtrip, dinner, stipend for syllabus development) for sustainability across curriculum at one U.S. university faculty?	Three sets of interviews with 20–90 faculty members	Participants developed expanded systems thinking and ethics of care, translating into changed daily habits and new political action. A combination of scientific reasoning and enchantment can have considerable impact.	(Barlett, 2008)
What is the impact of a vision of sustainability research education (university-industry collaborative research program with students) at the Swiss Federal Institute of Technology, Zurich?	Case study of two collaborative projects involving nine PG research students	Results highlight challenge of sustainability research education (special features, need for stronger incentives and trans-academic practices).	(Brundiers & Wiek, 2011)

TABLE 3: Continued

Research issue	Method	Key finding	Source
What are the issues in designing appropriate PBL for sustainability?	Case study of three subjects at a UK university	The approach to PBL design for EfS is desirable but has to be adjusted to the nature of 'wickedness' of sustainability issues and be appropriate to cohort and institution.	(Dobson & Tomkinson, 2012)
How can PBL help introduce EfS to a business degree?	Case study of two EfS programs (Japan and UK)	PBL helps compensate somewhat for systematic weaknesses in sustainability teaching.	(MacVaugh & Norton, 2012)
Is the Knowledge-Skills-Attitudes framework suitable for sustainability management education?	Case study of one masters program since 2005.	Graduates report that after completion of the program they are better prepared to effect change in business practice and thinking.	(Stubbs, 2013)
What is the impact of an action research program at MBA level?	Action research involving sustainability champions from five Australian business schools.	Of the five, four enhanced EafS and/or introduced new sustainability-oriented programs. Academic staff understanding and capacity improved. There were flow-on effects to undergraduate programs.	(Thomas & Benn, 2009)

Note: PBL = problem-based learning, UG = undergraduate, PG = postgraduate.

Further, while Reid and Petocz sampled academics' understanding of sustainability in postgraduate subjects across a variety of disciplines, the study at hand is concerned with academics within one undergraduate business program.

The first of four research questions attempted to elicit each academic's narrative view on what sustainability means to them. In order to avoid interviewer bias at this early stage of the interview, we did not offer participant academics a preferred definition of sustainability. Rather, the participant was given complete latitude to respond as he or she wished without prompting.

RQ1. What does 'sustainability' mean to the lead academic (subject and Program Coordinators [PCs])? The problematic nature of sustainability has been widely documented in the literature. Therefore, the second research question aimed to aid the interviewee in conceptualising sustainability. This was done using a recognised conceptualisation framework. In its 'Graduate Skills: Standards of Achievement', the Australian Government's Australian Learning and Teaching Council (ALTC, 2010)[11] advanced five sustainability achievement standards (or levels) for achievement in relation to conceptual sustainability skills:

1. Sustainability is limited to the idea of 'keeping self or business going'.
2. Sustainability is understood in terms of the environmental domain of sustainability.
3. The three broad domains of economic, social and environmental are discerned and generational responsibility is acknowledged.
4. Sustainability goes beyond the three domains, critically recognising the relevance of external authorities, societal rules and organisational agendas.
5. Sustainability is a complex process of adaptive management and systems thinking across disciplines and subdisciplines. This calls for a critically reflective theorisation of the concept, which recognises its evolution in the public discourse, its controversial nature and its location within certain theoretical and disciplinary paradigms.

While these standards are designed for academics to assess student achievement, they also provide a framework for an academic to: (a) indicate and articulate his or her own beliefs about sustainability and (b) assess to what extent these beliefs are realised in his or her subject. This captures the gap between a teacher's beliefs and actions (Pratt & Collins, 2010). According to Pratt & Associates (1998), commitment in teaching is revealed in the teacher's actions (the way a person teaches), intentions (what the person is trying to accomplish) and beliefs (why those actions and intentions are reasonable, important or justifiable). The second research question aims to inform the belief-action gap: *RQ2. Which ALTC conceptualisation of sustainability standard of achievement is (a) most consistent with the academic's beliefs and (b) how sustainability is featured in the subject?*

The third research question attempts to further inform academics' commitment in teaching and any gaps between beliefs-actions-intentions. It explores intentions in terms of the academic's perceived level of importance of sustainability to their subject. This indicates the extent to which the teacher is committed to, or takes responsibility for, EafS within the subject or program. A nuanced understanding to this research question was sought by asking the Subject Coordinator (SC) and [Degree] PC to distinguish between three sets of views of perceived importance of sustainability to the subject or program — (a) own view, (b) teaching team's view and (c) students' view: *RQ3. How important is sustainability to the subject or program?*

The final research question in this area of inquiry seeks to explore the academic's understanding of the two related terms, EaS and EfS. According to Fien and Tilbury (1996), and as indicated earlier, the two terms are quite distinct pedagogically. Whether and how lead academics appreciate this distinction may have implications for how sustainability is embedded in the curriculum. Hence: RQ4. What do the terms

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'education about sustainability' and 'education for sustainability' mean to the lead academic? What, if any, are the perceived differences between these terms?

Research Context

Established in 1994, Southern Cross University (SCU) is a mid-sized regional university in Australia with around 16,000 students from around the world. SCU's five campuses are situated in Lismore in Northern New South Wales, Sydney, and the Gold Coast in Southern Queensland, with a strong capacity to deliver in distance education mode. It also offers programs in Asia through various international educational collaborations. Students are attracted to study at SCU because of exceptional quality of life, a contemporary and high-quality learning experience and SCU's evolving and dynamic research profile across a diverse range of specialisations. In its Strategic Plan 2011–2015 (Southern Cross University, 2011), the university aims to 'enhance our performance in a sustainable and responsible manner' with the corresponding strategy to 'embed a commitment to the triple bottom line to enhance the economic, social and environmental sustainability of the University' (p. 10).

Of the approximately 11,000 students enrolled in an undergraduate Bachelor degree at the university, about one third is business students. These learners are very diverse in terms of location (campus/onshore/offshore), delivery mode (on-campus/external; face-to-face/online), enrolment status (full-time/part-time) and other characteristics, such as age (high-school leaver/mature age) and work status (not employed, part-time employed, full-time employed). Hence, business programs delivery is flexible and blended, using e-learning through the Blackboard learning management system with its suite of tools (e.g., online assessments, virtual classroom, discussion boards, virtual lectures), in addition to traditional classroom interactions. Business students are taught at one of two SCU schools — the Southern Cross Business School (SCBS) and the School of Tourism and Hospitality Management (STHM).

Both SCBS and STHM have also shown some commitment to increasing the inclusion of sustainability in its business programs and subjects. For example, a key recommendation of BBus review in 2004 was to have the first BBus in Australia with a 'triple bottom line' focus, providing differentiation between SCU and other business programs. This led to the introduction of the Ethics and Sustainability subject in the BBus core in 2005; the development of a new subject, Sustainable Business Management; and a directive to discipline groups to reflect sustainability, triple bottom line and ethical themes throughout the majors. STHM also has a longstanding commitment to sustainability, demonstrated in subjects like Sustainable Tourism and its partnership with Science in the Bachelor of Environmental Tourism Management. However, this project aimed to provide more concrete empirical evidence as to whether and to what degree there has indeed been a 'paradigm shift' in the SCU undergraduate first-year business curriculum towards sustainability. The study was conducted in both the SCBS and STHM schools at the subject level for the 14 first-year core subjects in the two BBus programs delivered in 2011 — Bachelor of Business (BBus) and Bachelor of Business in Tourism Management (BBusTM; see Table 4).

Research Methodology

For the overall study, a mixed method approach was used to collect qualitative and quantitative data about these subjects over two teaching periods. This involved, first, a content analysis of the 14 core subjects' curricula. Second, semi-structured, 1-hour, face-to-face in-depth interviews were undertaken with the SCs (head lecturer/teacher) and two PCs associated with the 14 subjects. This article reports results from the

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TABLE 4: Overview of Sample

Participant no.	Subject code	Subject name	School	Program
1	MKT00127	Tourism and Hospitality Marketing	STHM	BBusTM
2	SOY00411	Tourism Theories and Practices	STHM	BBusTM
3	MNG10247	Managing Organisations in a Global Context	SCBS	BBus
4	MAT10248	Quantitative Analysis	SCBS	BBus
5	LAW00150	Introduction to Business Law	SLJ	BBus
6	COM00207	Communication in Organisations	STHM	Both
7	MNG00440	Introduction to Tourism and Hospitality Management	STHM	BBusTM
8	ACC10249*	Financial Information for Decision Making	SCBS	Both
9	MKT00075	Marketing Principles	SCBS	BBus
10	SOC10236	Ethics and Sustainability	SCBS	BBus
11	ECO10250	Economics	SCBS	BBus
12	MNG10413	Human Resource and Workplace Management	STHM	BBusTM
13	MNG00441	Hospitality Services Management	STHM	BBusTM
14	ECO00424	Economic Analysis for Tourism and Hospitality	STHM	BBusTM
15	PC SCBS	BBus program coordinator	SCBS	BBus
16	PC STHM	BBus (THM) program coordinator	STHM	BBusTM

Note: STHM = School of Tourism and Hospitality Management, SCBS = Southern Cross Business School, SLJ = School of Law and Justice. * Following a BBus program review in 2011, the APC10249 subject was replaced with an updated subject.

16 interviews only. As experts on their curriculum design and delivery, the SCs/PCs were knowledgeable key informants who are best able to provide insights (Miller, Cardinal, & Glick, 1997; Seidler, 1974). Semi-structured interviews allowed the researchers to find out what SCs and PCs were thinking, feeling and 'doing' regarding EafS. The interview research followed Kvale and Brinkmann's (2009) recommended systematic, seven-step progression to ensure that it conforms with scientific criteria, taking into account the ethical aspects of the investigation — thematising, designing, interviewing, transcribing, thematic analysing, verifying and interpreting patterns and reporting (for details, please refer to von der Heidt, Lamberton, Wilson, & Morrison 2011). In addition to the narratives, quantitative data was collected from participants in the interviews using two parametric scales:

- a 5-point scale based on the ALTC's five-level conceptualisation of sustainability in higher education (RQ2), which allowed participants to better scaffold their conceptualisations of sustainability;
- an 11-point scale (0 = *not at all*; 10 = *extremely so*) was used in the interviews to help scaffold participants' responses in relation to RQ3 (importance of sustainability to the subject).

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The quantitative data was collected during interviews and, where relevant, compared to qualitative data collected, providing the opportunity to test and confirm conclusions drawn from the data set.

Findings

The interviews yielded 16 transcripts (14 SCs and 2 PCs). Each transcript was about 2,400 to 3,200 words (six to eight typed pages) in length. Findings are presented in this section for each of the four research questions.

Meaning of Sustainability to Academics (RQ1)

When asked 'What does sustainability mean to you?', 13 participants responded by drawing on all or some of the components of the familiar, environmental, social and economic three-dimensional definition. Of the three other participants, one suggested sustainability was beyond these three dimensions, emphasising attributes of flexibility, versatility, creativity and non-conventional thinking; and another described sustainability as 'the ability for something to occur again, and occur again, and occur again, forever, and beyond profitability … remaining competitive and continuing to exist' (Participant 11).

Twelve of the 14 SCs who drew on the multidimensional definition identified two (environment and social), three (environment, social and economic) or four (environment, social, economic and cultural) dimensions to sustainability, with the remaining participants describing sustainability in terms of resource use and depletion. These responses reinforce the view that although sustainability is grounded in environmental concerns, it goes beyond these concerns to consider broader aspects of society, business and culture. Four participants emphasised the environmental component reflected in statements, such as: 'The term [sustainability] these days is synonymous with environment and making sure we preserve environment for future generations' (Participant 1); 'Primarily I think about it like environmental sustainability' (Participant 3); 'I usually think of it more in the environmental contingent to survive on this planet' (Participant 4); 'I actually look at it more from the environmental aspect of sustainability' (Participant 8).

By contrast, the broader social, ethical, cultural dimensions and dynamic aspects of sustainability were acknowledged in the following statements: 'I focus more on the cultural and social sustainability … without that you're not going to get the environmental sustainability' (Participant 6); 'Sustainability to me is balancing the economic, social and environmental aspects of something. I know "sustainable" is often aligned with just environmental impacts, but to me it's broader than that' (Participant 7); 'Environment, economics, society and culture … they are all interconnected and somehow they have to be achieved simultaneously' (Participant 10). Participant 9 emphasised the dynamic nature of sustainability: 'It's having that sort of consciousness, the flexibility, versatility, creativity, moving beyond conventional ways of thinking, which are very mainstream, to ones that allow … big picture thinking.'

Two SCs teaching the disciplines of accounting and economics provided narrow descriptions of sustainability compared to the holistic conceptualisation encompassing multidimensionality, complexity and interconnectedness of social, economic and ecological spheres. Both SCs identified the continuing, longer-term nature of sustainability applied singularly within their own disciplines, focusing on profitability (accounting) and efficient resource allocation (economics). Whilet these two SCs both conceptualised and applied sustainability narrowly within their own financially oriented disciplines, other SCs provided a broader conceptualisation of sustainability, but a similarly narrow

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application. For example, cultural and social issues featured strongly in the dedicated communication subject, but without a more in-depth exploration of their connection with environmental and economic dimensions of sustainability.

Examples of the narrow application of the concept of sustainability within academics' specific disciplines is consistent with findings in Reid and Petocz (2006), where the notion of sustaining something in the long term (labelled as sustainability) was applied to retirement incomes and financial institutions in strictly an economic context. It is important to note that sustainability is necessarily a multidisciplinary concept. It demands a broad view of business acknowledging the essential environmental and social components, as well as the critical interconnection between these components. While this research did not attempt to impose a broad definition of sustainability on participants, evidence of more narrowly defined conceptualisations of sustainability within the business context is noted.

Academic's Conceptualisation of Sustainability in Terms of ALTC's Definitions (RQ2)

Drawing on the ALTC's (2010) five conceptualisations of sustainability in higher education, this interview question attempted to distinguish between the conception that the participant felt: (a) was most consistent with his or her own beliefs, and (b) was most consistent with how sustainability features in the subject that he or she taught.

Responses to Part A of the interview question provide a different emphasis regarding the meaning of sustainability compared with the findings reported in the previous section. Ten of the 14 SCs chose the highest-order conceptualisation of sustainability (option 5) which was:

> *Sustainability is a complex process of adaptive management and systems thinking across disciplines and subdisciplines. It calls for a critically reflective theorisation of the concept, which recognises its evolution in the public discourse, its controversial nature and its location within certain theoretical and disciplinary paradigms.*

This conceptualisation does not provide a precise meaning of sustainability; rather, it suggests a cross-disciplinary, dynamic and complex process of discovering what sustainability might be within a systems management framework. Participant 2 explained her choice as follows: 'That's about systems thinking. Just because I am a systems thinker, my study's been grounded in systems thinking, and that's what I teach.' Participant 9 reinforced their view of the complex nature of sustainability: 'It is something rather fluid and dynamic … that may elude us but one aspires to.' Four other participants identified the complexity of sustainability as a reason for choosing option 5.

Of the remaining six participants, one chose option 4, three chose option 3 (the three broad domains of economic, social and environmental are discerned and generational responsibility is acknowledged), one chose option 4 (sustainability goes beyond the three domains, critically recognising the relevance of external authorities, societal rules and organisational agendas) and the remaining participant chose a combination of options 1, 3 and 4. The reasons given for selecting options 3 or 4 were their similarity with established three-dimensional definitions of sustainability.

This strong preference toward a higher-order conceptualisation of sustainability in higher education suggests the standard three- or four-dimensional conceptualisation of sustainability, which is more commonly found in business programs, is an incomplete or insufficient conceptualisation of sustainability. However, the three-dimensional definition does fit more comfortably with the way in which SCs describe what sustainability means to them.

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By contrast, the responses to the Part B question, 'Which conception is most consistent with how sustainability is featured in the subject?', were skewed toward the three-dimensional definition of sustainability. Most (11 of 16) participants chose the familiar option 3, three chose option 1 (sustainability is limited to the idea of keeping self or business going), and two participants chose multiple options, which included option 5; suggesting that sustainability is given meaning within business subjects mostly as a triple bottom line concept.

Participant 16 (a PC) observed as follows:

> *[in first year it's about] introducing students to that notion of economic, social, environmental issues, external environments that individuals and businesses have to operate within. By the time the students are getting to their third year and a subject like strategic management, it's getting more towards (option) five, and getting them to appreciate the complexity of actually operating in that more complex environment.*

Participant 15 (also a PC) suggested the dedicated Ethics and Sustainability subject was designed to introduce the higher order conceptualisations (options 4 and 5), whereas other subjects would only have some token coverage of sustainability. Participant 9 felt that option 3 reflected how sustainability is defined and discussed in the subject content; however, through the assessment: 'I think (option 5) is the way that students experience it through their assessment. They're starting to appreciate the complexities.'

The three SCs who chose option 1 gave the following justifications for teaching sustainability at this (perceived) lower and more business focused level: '(Option 1) reflects how I see (sustainability) and what I think … [it] actually means' (Participant 13); '… the subject … is … based on pure economics. It is profit margin, we do cost curves and how to maximise profit' (Participant 14); 'This is the Australian legal system, we have parliament, we have the judiciary, we have the executive. There's just no room to introduce to sustainability in anything that would be meaningful and wouldn't be just pure lip service, just putting the word in for no reason. I don't have time, I don't have space' (Participant 5).

Table 5 compares scores for the survey questions related to the 5-point parametric scale based on the ALTC conceptualisations. The table has four components: (1) scores for each participant for interview Question 2a, which is the SCs' view of which ALTC conceptualisation is consistent with their own beliefs; (2) scores for interview Question 2b, which is the SC's views of how sustainability features in the subject; (3) comparisons between these different views; and (4) the product of both score sets to indicate the level of sustainability in each subject. The average of differences of answers for Questions 2a and 2b across all 16 participants are summarised in the mean, mode and median statistics.

An assumption critical to the interpretation of the mean and median statistics contained within Table 5 is that sustainability can be conceptualised on a continuous scale from 1 (low complexity — keeping business going) progressively through to 5 (highly complex process of adaptive management). The continuity assumption is considered appropriate here as the five ALTC definitions represent increasingly complex conceptualisations of sustainability from 1 through to 5. However, these interpretations must recognise that a score of 2 does not reflect twice the complexity of 1, but rather an additional level of complexity as defined in the qualitative conceptualisations. It should be noted that some participants chose a point in between two ALTC definitions, and these are shown in Table 5 as halfway (0.5) scores.

The relatively high scores (mode = 5.0; median = 3.75; mean = 4.34) out of a maximum possible score of 5 for Question 2a confirms the SCs' more complex

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TABLE 5: Comparison of Results for Conceptualisations of Sustainability Using ALTC Definitions

Participant	Question 2a: Participant's view of sustainability	Question 2b: Participant's view of how sustainability is featured in subject they teach	2a and 2b consistent Yes or No?	Level of sustainability 2a * 2b
1	5	3.5	N	17.5
2	5	4	Y	20.0
3	3	3	Y	9.0
4	3.5	3	Y	10.5
5	4	0.5	N	2
6	5	3.5	N	17.5
7	5	4.5	Y	22.5
8	5	3	N	15.0
9	5	3	N	15.0
10	3	3	Y	9.0
11	5	3	N	15.0
12	5	4	Y	20.0
13	5	1	N	5.0
14	3	1	N	3.0
15	3	3.5	Y	10.5
16	5	3	N	15.0
Mean	4.34	2.90		12.9
Mode	5.0	3.0		15.0
Median	3.75	3.25		15.0

conceptualisation of sustainability. This result differs to the previous findings for RQ1, where 13 out of 16 participants drew predominantly on the familiar environmental, social and economic conception of sustainability (which is a score of 3 on the ALTC sustainability conceptualisation scale). However, ALTC conceptualisation 5 does refer to 'systems thinking across disciplines' and, given the assumption that ALTC conceptualisations increase in complexity from 1 to 5, it is possible option 5 was interpreted to contain the cross-disciplinary environmental, social and economic dimensions. The lower score for Question 2b (mode = 3.0; median = 3.25 and mean = 2.9) shows that in the actual 'curriculum-in-action', sustainability is conceptualised as a less complex phenomenon than option 5 of the ALTC conceptualisation, and closer to the three-dimensional definition.

Table 5 also evaluates the consistency between scores in Questions 2a (own beliefs about sustainability) and 2b (how sustainability features in the subject taught). Consistency is interpreted as the same or up to a 1-point difference in the score, whereby consistency is shown as 'Yes' and inconsistency as 'No'. The results (6 'yes' and 8 'no') point to the inconsistency between teaching academics' actions, intentions and beliefs. This gap has also been noted in previous studies (Naeem & Neal, 2012). Underpinning this inconsistency is the contested nature of sustainability and the flexibility inherent in its many varied definitions. Given this variation in meaning, the research was purposely designed to provide both the opportunity for participants to express their own

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understanding of sustainability, as well as draw additional meaning from the range of ALTC definitions. The inconsistency of meaning noted here emphasises the need for sustainability in curriculum development initiatives to be preceded by extensive and inclusive discussions as to what sustainability means in specific disciplinary settings.

The final column of Table 5 indicates the self-reported level of sustainability in the participant's curriculum-in-action. The scores range from 3.0 to 22.5, with a mean of 12.9, and mode and median of 15. A distinct difference can be observed between the two main schools involved in the study: The top five scores (22.5 to 17.5) relate to five (of seven) subjects taught by the School of Tourism and Hospitality Management. Further, the Tourism School's PC's score (15.0) is well above that of the Business School's PC (10.5). In other words, these Tourism School participants appear to have a more developed view of sustainability and feature sustainability in their subjects to a higher degree than all the Business School and some other Tourism School SCs. The explanation for the difference may lie in tourism being a relatively newer discipline at universities than business, and is very vocationally driven. To this end, the Tourism PC (Participant 16) explained that the School looks at the 'balance between liberal and vocational education' and is accustomed to 'this idea of working within a complex environment where we need to consider all different perspectives. We're trying to operate, so that these things are going to continue on into the future with a minimum impact.'

Importance of Sustainability (RQ3)

Responses to the interview Question 3(a), 'How central/important would you say sustainability — in its broad sense — is to this subject?', were varied. Two participants (4 and 5) recorded zero (*not at all important*), five participants (1, 2, 7, 10 and 11) recorded high scores of above 7 (*very to extremely important*), and nine participants (3, 6, 8, 9, 12, 13, 14, 15 and 16) scored in the mid-range from 3 to 7 (interpreted here as *average importance*).

Participant 15 (a PC) volunteered this view critical of sustainability: 'Some subject assessors would say "this [sustainability] is rubbish and we should be teaching [the business curriculum] …" and it's unimportant …'. On the other hand, Participant 1 stated that sustainability is 'very important [to the subject] if we're talking about successful business in the long term'. This range of response as to the general relevance of sustainability to business curriculum may only reflect the differing level of relevance sustainability has to the various subbusiness disciplines included in the first-year core business program. However, a general theme in these responses was that it would be desirable for sustainability to feature more prominently in first-year curriculum, if this were possible without the trade-off of reducing important business content. This observation reinforces the importance of teaching sustainable business theory and practice as an integrated body of knowledge, instead of traditional business theory and unsustainable practice, and then treating sustainability as an alternative agenda.

Responses to the interview Question 3b about whether the *teaching team* shares the lead academic's view (about the importance of sustainability to the subject taught) indicated that members of teaching teams were believed to have a widely diverse views as to the importance of sustainability to business curriculum, with participants evenly split between believing the teaching team held similar views or being unsure what views members of the team held. This varied opinion was reflected in the following two contrasting responses: 'Most of them would. We've been together as a teaching team for quite some time. I myself personally, as well as our school, invests a lot of energy, time and effort in creating a good holistic team who are well supported financially and in terms of opportunities, in terms of training – any training that get paid for. Their time gets paid for' (Participant 6). In summary, Participant 15 suggested that 'it would

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depend on which subject assessor and which subjects … there's varied views in the school about the importance of sustainability and how much we should actually cover it'.

Responses to interview Question 3c, which asked 'How important do you think sustainability is to business/tourism students in their business degrees overall?', showed that students were thought to attach a significantly lower level of importance to sustainability in curriculum (mean of 3.9) compared with SCs (mean of 5.9) on 0–10 scale. The main reason provided for this was a strong vocational focus by students on degree completion and job opportunities. The following response by Participant 3 shows a perceived disconnect between business and sustainability: 'I don't think they're too concerned about sustainability. I think they choose a discipline that teaches them more about numbers and finance and economics.' This response suggests that 'hard' business skills (often quantitative-based) are seen to be separate from sustainability. This perception is problematic and represents a barrier to attempts to embed sustainability throughout business curriculum. The variation in perceptions of students' interest in studying sustainability in a business program is reflected in the following responses. According to Participant 10: '… there's students that are bored and don't see the relevance and there's other students that are passionate and think that [sustainability is] the future of business.' However, once embedded in a subject, a SC (Participant 9) claimed that students happily accept it: 'Overall I'm quite surprised at how little resistance there's been to having a major assessment involving sustainability, so I think overall students are very receptive.'

Given most SCs rate sustainability as of average or no importance to their subjects, it may prove useful to reverse the question and ask academics how their discipline can contribute to an understanding of sustainability. Each discipline represents a vehicle to increase our understanding of the meaning of sustainability within different contexts, as well as exploring its application. It is not just the disciplines that need to evolve to include sustainability; evolution of sustainability conceptualisation is dependent on increased engagement and input across the broad range of academic specialisations, otherwise sustainability will remain a predominantly environmental concept.

Sustainability Theory and Practical Applications (RQ4)

Interview Question 4 asked: 'Have you heard of the terms *education about* and *education for* sustainability? What do they mean to you? Do you see any difference in the terms?' While SCs were not familiar with these specific terminologies, they did distinguish teaching sustainability theory from the practical application of sustainability concepts. Some SCs confirmed they covered both in the curriculum, but there was a strong preference for practical applications of sustainability theory: 'Most of what we cover is about practical applications' (Participant 3); 'But teaching *for* sustainability — this is the goal we're seeking to achieve. This is where we're going on the journey' (Participant 7); '… having sustainability as something that will actually allow students to go off and think about it themselves, to let them go and do that sort of stuff I think is much better' (Participant 13).

This preference for practical sustainability skills-based applications does present a risk of practice being taught to students in the absence of a strong theoretical grounding. Given the existence of the compulsory ethics and sustainability subject (SOC10236) within the BBus, there is a prevailing view among lead academics that sustainability theory is covered 'elsewhere' and can be assumed prior knowledge: 'So Ethics and Sustainability … in some ways we've let it fulfil that role' (Participant 16). However, this view is contrary to the goal of embedding the sustainability themes throughout the

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undergraduate business programs, a decision taken after the major program review in 2005 (von der Heidt & Lamberton, 2011).

Discussion and Implications

This article is the first to provide insights into lead business academics' conceptualisations of sustainability and its role in the first-year BBus curriculum. Most participants (13 from 16) in this study initially conceptualised sustainability by drawing on some or all of the components of the familiar, 'three-dimensional' definition. Hence, some basic level of shared understanding about the meaning of sustainability was present among the individual academics across both schools. It is encouraging that within two related schools some degree of consistent opinion exists. Achieving some degree of consistent understanding of sustainability within the university faculties appears to be more challenging across universities, as found by Wright and Horst (2013).

Yet the initial conceptions of sustainability expressed by most participants did not really capture the multidimensional and interconnected complexities of sustainability. This echoes the finding by Byrch et al. (2007), whereby *thought leaders*' and *influencers'* understandings of sustainable development were disparate in detail and complexity, depending on whether participants promoted business generally, sustainability, or sustainable business. Only when presented with the ALTC's (2010) five conceptualisations of sustainability in higher education did the majority (10 out of 16 participants) state a preference for the more dynamic, complex conceptualisation of sustainability (option 5).

Despite this shared preference for a strong conceptualisation of sustainability, in terms of the *actual* business 'curriculum-in-action', most participants indicated that sustainability was not highly represented. Naeem and Neal (2012) also found that few business school educators incorporated EfS in their teaching, despite realising the importance of sustainability. In our sample, the gap between preferences and curriculum became even more evident in relation to the 'designed-in-advance' curriculum, which was independently content-analysed (this part of the study will be published elsewhere.) The gap between most participants' strong sustainability beliefs and their much weaker actions to translate this into the curriculum is of some concern. It reflects a number of factors.

First, members of teaching teams were found to have very diverse views as to the importance of sustainability to their first-year subject. Between the extreme views, the majority of participants felt that sustainability was somewhat important to their subject and should feature *more* prominently in first-year curriculum, without trading off against reduced business content. What is unclear is whether the diversity of opinions reflects uncertainty that inhibits sustainability curriculum development, or whether it provides flexibility for teachers to embed sustainability ideas in ways in which they feel most comfortable. Students were thought to attach a significantly lower level of importance to sustainability in curriculum compared to SCs, given their strong vocational focus. However, the experience within two subjects associated with Participants 9 and 10 suggested that many students were highly receptive and passionate about sustainability in business curriculum.

Second, some participants were concerned with curriculum crowding and relative relevance to the curriculum. This reflects the findings of Reid and Petocz (2006) in that some academics conceptualised sustainability narrowly within their own disciplinary context (e.g., sustaining profitability in the long term); others applied one sustainability component to their discipline (e.g., by exploring culturally inclusive communication techniques); contrasted with a small minority of academics who were able to embed

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the multidimensional conceptualisation of sustainability into their subjects to create a more creative and dynamic learning experience.

A third factor contributing to the gap between personal conceptualisations of sustainability and how it is featured in a subject is participants' difficulty in appropriately conceptualising sustainability. The highest-order ALTC conceptualisation (sustainability as a complex process of adaptive management and systems thinking across disciplines and subdisciplines) is particularly challenging for university educators to embed in undergraduate programs. It is predicated upon a process of discovery and a critique of a concept, which may not be expected to be clearly understood by staff, let alone first-year students. For instance, marketing educators appear to place more emphasis on more clearly definable notions of social responsibility and ethical training than on the broader construct of sustainability (Rundle-Thiele & Wymer, 2010). Many participants believed that first-year subjects need to conceptualise sustainability at a lower level of complexity than would be possible in more advanced subjects. Of course, the validity of 'sustainability theory as assumed prior knowledge' assumption will depend on how well students retain and carry forward knowledge from earlier subjects. This, in turn, is related to the ability of business academics to teach relevant sustainability theory, which is unclear.

Fourth, apart from the before-mentioned staff- and student-related factors, participants viewed the complexity of the university's multi-campus institution together with the need for blended learning delivery as a barrier to teaching sustainability in the BBus (Wilson & von der Heidt, 2013). The ability to exploit e-learning opportunities for EafS were seen as constrained by high academic workloads, limited technological support and limited time to communicate directly with students. Another institutional barrier is academic tribes and concomitant lack of cross-disciplinarity. Typically, academic teams are fragmented into quasi-independent subjects — each charged with concern for a disciplinary body of knowledge (Haigh, 2005; James, 2002) and usually following reductionist, atomistic modernist thinking (Sterling, 2002). This is at odds with the expanded worldview underlying EafS and its focus on higher order of learning, such as building competencies in interacting, partnering and systemic thinking. Haigh (2005) asserts that the propagation of EafS requires a change in value systems — first in higher education institutions, then in society. Yet he questions the ability of higher education institutes to transform themselves to address the sustainability agenda, given that they serve the dominant ethos of unsustainability. The difficulties facing undergraduate business education are even more dire. Business schools need to prepare undergraduates for real-world business practice, where employers and society may not (yet) fully embrace sustainability.

The finding that most Tourism School subjects score more highly in sustainability than business subjects suggests that primary disciplines and/or school culture may indeed play an important role in academics' uptake of EfS. The general perceived embedding of sustainability in actual curriculum across most first-year subjects at the newer, more liberal and vocationally oriented Tourism School differs from the approach adopted within the Business School. While the latter has a dedicated first-year subject in Ethics and Sustainability, individual academics rather than any school policy appear to be driving selected sustainability-oriented curricula.

In our opinion, sustainability concepts and practices are suited to a range of disciplinary contexts and can be embedded within conventional business/tourism curriculum. Sustainability need not be presented as an alternative agenda believed to be separate from 'hard' business skills. An example of increasing sustainability content without trading off by reducing traditional business content would be expanding economic cost-benefit analysis to include all social and environmental impacts, thereby

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teaching sustainability cost-benefit analysis instead of the more narrowly focused economic cost-benefit analysis. Introducing maximally learning-centred approaches to curriculum is consistent with calls for higher order learning (Sterling, 2002) and for educators to intentionally plan for disruptive transformative learning experiences, so learners familiarise themselves with sustainability challenges of uncertainty and discontinuity (McGregor, 2013). For example, von der Heidt and Quazi (2013) discuss how to embed EafS in a learning-centred marketing principles curriculum.

An important aspect of progressing EafS in the business curriculum would be for school curriculum decision makers to facilitate widespread and purposeful discussion within and between faculty staff, as discussed by Wooltorton, Palmer, and Steele (2011). The different levels of present engagement with sustainability need to be acknowledged and debated within academic communities to more fully inform the process of curriculum development. This would also help resolve differences in conceptualising, committing to and embedding EafS in the BBus curriculum and identifying collaborative solutions. Given the multidimensional nature of sustainability, teams consisting of members from multiple disciplinary backgrounds (such as accounting, economics, finance, information technology, management, marketing, tourism) are best placed to develop these solutions.

The implication for business school and university management is the need to accept its role in providing appropriate support and funding during the period of transition from old (unsustainability-oriented) to new (sustainability-oriented) business curriculum. Implementation of a modified or new sustainability-oriented business paradigm cannot reasonably be expected to be resourced purely by additional efforts of faculty members. Business academics unfamiliar with sustainability principles and practice would need support from disciplinary specialists as to how to embed sustainability where relevant throughout curriculum. Professional development, such as by undertaking a module in the National Professional Development Initiative for Sustainability Educators (NPDISE; Smith, Collier, & Storey, 2011), may progress this.

Conclusion

The primary aim of this article was to determine how academics engaged in first-year business programs at one Australian university conceptualise sustainability in their teaching. Although a mix of both narrow and broad conceptualisations of sustainability were provided by the 16 participants, there was heavy reliance on the triple bottom line definition (RQ1). When asked to select from the five ALTC definitions, a majority of participants indicated they believe sustainability is something more dynamic and complex than the triple bottom line definition, but sustainability is operationalised in their business subjects as primarily a triple bottom line concept (RQ2). Most academics interviewed in this research placed a low level of importance on the need to embed sustainability in the business subjects for which they are responsible (RQ3), and they also expressed a preference for teaching practical examples of sustainability rather than sustainability theory (RQ4).

On the whole, the limited take-up of sustainability in the undergraduate business curriculum suggests we are failing to prepare our graduates for the preferred shift to a sustainable future. Given considerable diversity in responses to the importance of sustainability to first-year subjects and a feeling that sustainability is separate to business, the challenge of shifting to a new sustainable business paradigm is significant. Much of the turmoil experienced in the world economic and business environment can be traced back to the lack of sustainability orientation. Therefore, more rigorous and deliberate EafS in curriculum would contribute to managing for volatility and instability. In this

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way, the attendant curriculum renewal in higher education would mirror the adaptation to change required de rigueur by industry in transitioning to more sustainable business practices.

Endnote

[1] In November 2011 the ALTC was reorganised in to the Office of Learning and Teaching (OLT).

Keywords: sustainability, education for sustainability, curriculum, management education and development, interview method

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