

RESEARCH ARTICLE

Building your influence: the role of the smart sustainability leader [version 1; peer review: 2 approved]

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Abstract

Anyone seeking to influence another is a potential leader. Within higher education, determining what an institution should undertake on sustainability can be daunting. Sustainability leaders face labyrinthine, multifaceted sub-cultures, influencers and viewpoints across staff, students, government, business and alumni all with an opinion on whether, how and in what order of priority sustainability should be taken forward. In this paper we take on this challenge by synthesising and critically evaluating core principles and working models for influencing and leading for sustainability in higher education. We identify a series of eight challenges affecting delivery of sustainability and seek to understand how conceptual models and principles in sustainability decision-making and leadership could address these. We draw on the experience of both authors, in tandem with comments from workshop and leadership training programme participants who attended the Environmental Association for Universities and Colleges (EAUC) Leadership Lab training in the UK, as well as reflections arising in a detailed case study from the University of Edinburgh. We bring key insights from theory and practice for the benefits of individuals or teams seeking to influence and persuade key decision-makers to embrace the sustainability agenda.

Keywords

leadership, higher education, sustainability, decision-making, value measurement



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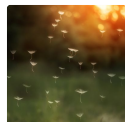
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Introduction

Even before Covid-19, decision-makers throughout the world were facing ever more complex, fast-paced and paradigm-shifting changes in the economic, political, societal and environmental realms. The term ‘VUCA’ is now in common use to describe this: volatile, uncertain, complex and ambiguous. This originated from the US military in 1987 after the Cold War but is now used widely in management and leadership literature (see, for example, Mack *et al.*, 2015). Sometimes it is used as a call for ‘it’s too difficult to do anything’, but often – as in this paper – used more constructively as a means of recognising and appreciating the uncertainty and complexity sustainability leaders in higher education are facing, then finding structured means and models to help navigate this. Although progress can be made empirically and in the absence of an underpinning theory, we share the view of Kurt Lewin that ‘there is nothing as practical as a good theory’ and that ‘If you want truly to understand something try to change it’ (Lewin, 1943, p.118).

Public interest and anxiety about the future of the planet and human systems has increased exponentially in recent years, moving from the domain of niche interest groups to the mainstream consciousness and the newsworthy. The XR (Extinction Rebellion) movement starting in 2018 (<https://rebellion.earth/join-us/>) exemplifies some of this, alongside the ‘David Attenborough Effect’ arising from nature documentaries highlighting the adverse impact humans are having on the natural environment and their own social systems. This has provided impetus for university engagement with sustainability. Perceptions regarding the importance of sustainability are changing after years where it has been seen as a marginal, ‘nice to have’ activity: increasing numbers of students and staff believe that their institution should address issues of sustainability as part of ‘doing the right thing’ for current and future society. This viewpoint is seen as above and beyond questions of institutional viability and graduate employability measured through economic, instrumental metrics, with increasing signs that students and other stakeholders are questioning the role of a university in this regard. The UK National Union of Students (NUS) and the Students Organising for Sustainability (SOS) present detailed data over an extended period demonstrating rising student interest and concern – approximately 80% of students want their institution to do more about sustainable development, 60% want to learn more about sustainability. Results from a survey running since 2014 show student concern about climate change at record levels in 2019 with 91% concerned (NUS, 2019). This matches results from internal surveys at our case study institution where three surveys of students (n=6560) and staff (n=5410) over the period 2016-2019 show interest at 96% (climate change), 94% (sustainability) and 90% (social responsibility) (Sarah Ford-Hutchison & Michelle Brown, Department of Social Responsibility staff and student surveys 2016-2018)

Changing perceptions have been exacerbated by evidence of accelerating climate change and degradation of natural systems. In tandem, there has been the quantification of the value of nature and an increase in demand for renewables with declines

in their associated costs. Between them, they show that viable alternatives are possible. Evidence of the threats posed by climate change are well documented by the Intergovernmental Panel on Climate Change (IPCC, 2018). The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019) presents a similar synthesis for nature, whilst the UK National Ecosystem Assessment (2014) and subsequent natural capital work demonstrated the economic and social value of natural systems to the UK. Evidence of declining costs of renewables and the forthcoming fundamental change in energy systems is evidenced by UK government data (Department of Business, Energy and Industrial Strategy (BEIS 2019). As a consequence of all the above, the economic opportunities of moving to a more efficient, circular economy have been estimated by McKinsey to be worth \$1.8 trillion by 2030 to European economies alone (McKinsey Center for Business and Environment, 2015).

However, since the millennium, the notion, scope and expectations of the UK higher education system have been in turmoil. There have been seismic shifts in funding (largely from state quotas to proxy-market systems, from government grants to student ‘fees’ (McCaffery, 2018)), as well as changing national demographics, increasing staff pension costs and volatile international student opportunities. Some universities have been thriving, others barely hanging on (Gill, 2017; HEFCE, 2016). This trend has been magnified by the Covid-19 outbreak during 2020 as universities grapple with rapidly changing dynamics within and surrounding the sector. Now more than ever they must critically evaluate and justify their purpose to current and future stakeholders and wider society, a notion that was already gaining traction before 2020 (UPP Foundation, 2018).

Determining what an institution should do for sustainability, and how, can be daunting. Notwithstanding the challenge of influencing within an organisational culture described as ‘herding cats’ (Garrett & Davies, 2011), and the requirement to respect notions of academic freedom, sustainability leaders face labyrinthine, multifaceted sub-cultures, influencers and viewpoints across staff, students, government, business and alumni. All have their own valid opinion on how sustainability should be taken forward. This can be energising but also extremely challenging. As noted by Haddock-Fraser *et al.* (2018):

“Like most organisations, universities are an amalgam of individuals, each with a religious, political and moral stance....these multiple individuals are engaged in knowledge creation, critique and dissemination across multifaceted disciplines within which exist a wide range of ontologies and epistemologies.....this provides a melting pot for creativity, disparate views, ideologies and priorities” p.5

In addition, sustainability may be viewed through multiple lenses, whether (Haddock-Fraser *et al.*, 2018):

- A subject in its own right for research, knowledge exchange or teaching;

- A process or concept to apply to critique within other disciplines (e.g. engineering, English literature, psychology, sociology);
- A business process within estates and facilities;
- A cause to rally staff and students;
- A state of mind and institutional value;
- A pedagogic pillar in learning and teaching; or
- A combination of the above.

Such disparity makes determining where and who in the organisation is responsible and accountable for sustainability can be complex and compromised. Traditionally, it has been the domain of, or grown out of, Estates functions and/or expanding health and safety to include environment. As the scope and opportunity of sustainability expanded, so has the range of functions and roles where sustainability leadership is prevalent. To date, the largest group of sustainability leadership posts in the UK are still based in Estates-type functions, although increasingly sustainability is becoming an Executive responsibility and/or sustainability leadership held in a senior academic post. Senior leadership engagement mirrors the expansion of the sustainability's scope as it is progressively acknowledged that issues of poverty, development, environmental degradation, climate change and intra- and inter-generational fairness are linked, needing a whole-institution response. Sustainability leaders are finding more and more that their responsibilities extend across the institution to include campus, education, student experience, partnerships and further, usually far beyond the individual's line management responsibilities. A challenge can be the need to facilitate rather than authorise change. The Environmental Association for Universities and Colleges (EAUC)¹ noted this in its 2018 Governor's guide to sustainability (EAUC, 2018) and it is common also in large, multinational companies (UN Global Compact, <https://www.unglobalcompact.org/participation/join>). Organisations including universities are now expected to understand the impacts of their operations and activities both near and far.

To help sustainability leaders become more effective in their 'VUCA' roles, the EAUC developed and delivered a bespoke leadership training programme in 2019 (called the 'Leadership Lab'). It was built on iterative feedback from established UK senior sustainability professionals and leaders to the EAUC as part of market testing for enhancing member benefit, and also research findings from widescale sector surveys (Haddock-Fraser *et al.*, 2018; Scott *et al.*, 2012). In 2016-18 the EAUC had run a programme based solely on Sharp's CBI-S model of decision-making for sustainability (Sharp, 2015), and this material was incorporated into a wider offering on the programme from 2019.

¹ The EAUC is the member organisation for sustainability in higher and further education in the United Kingdom and Ireland with over 90% of UK universities being members.

The objective of this article is to explore how the specific training and development interventions in the Leadership Lab programme have catalysed or assisted in enhancing sustainability success within universities. We start by exploring the problems facing university sustainability leaders, particularly the ambiguities surrounding success for sustainability leadership. Through synthesising this we identify a series of eight challenges sustainability leaders may face. We then present and explain the rationale for inclusion of the models and concepts used within the Leadership Lab programme. Finally, we provide Leadership Lab participant feedback from 10 of the 32 participants, along with a case study from the University of Edinburgh. From these we reflect on the valence or otherwise of the models and concepts presented to their subsequent practice, and draw conclusions on the challenges facing a sustainability leader, the role of and value of formal leadership training and some key insights to assist practitioners.

Why is delivering sustainability a complex challenge for university leaders?

Sustainability leadership brings multiple layers of volatility, uncertainty, complexity and ambiguity – whether relating to the scope relevant for a university; how success is measured; and where and how is the most effective leadership and influence are to be delivered. Core questions for sustainability leaders are identified below. These inform our discussion in this section and lead to the development of eight key challenges for sustainability leaders that the EAUC Leadership Lab training sought to address.

Although sustainability can have differing scopes and foci, for the purposes of this research and the Leadership Lab training, the scope we use is as set out here. The iconic definition from Brundtland (1987) is still a starting point for understanding what sustainability is but offers little in the way of clarity on how to navigate its interconnectivity. Since Brundtland, models and means to measure sustainability have mushroomed, culminating in the United Nations Sustainable Development Goals (SDGs) in 2015 (United Nations, 2015). At the outset this can feel like a shopping list of goals until relative priorities are considered. For instance, Rockstrom & Sukdev (2016) present a new way of thinking about the basis of social and economic activity being rooted in natural systems with the biosphere (and associated SDG goals 6,13,14,15) providing the underpinning systems upon which subsequently society (SDG goals 1,2,3,4,5,7,11,16) and the economy (SDG goals 8,9,10,12) are based. The principle of relative priorities mirrors that seen in Porritt's Five Capitals Model (see later) (Porritt, 2005) both reversing the priorities for economic development from economy-first to 'environment-essential'. This premise was an important principle within our interventions.

Sachs *et al.* (2019) stress that a series of six transformations will be required to deliver the SDGs – across systems as diverse as energy, food, cities, digital and health, and that major efforts across government, business and broader society will be needed. The six transformations are not only interlinked but form a set of 'modular building blocks' with the foundation stone being

education, gender and inequality. In concert with the reprioritisation of 'environment-essential', the narrative for universities as centres of transformational change for sustainability through education and research becomes compelling. Universities, whether learning and teaching, research or knowledge exchange become societal building blocks for transformational change.

Given this, why do sustainability leaders in universities struggle to get heard and get traction within their institutions? We explore this below through discussion and development of eight challenges for a university sustainability leader.

1. Being heard above the noise

Many university roles have clear indicators for success and achievement. Academics have an ever-increasing range of metrics measuring their success and effectiveness: research quality, impact, esteem, or student satisfaction, outcomes, or employability. Professional service staff tend to work to institutional Key Performance Indicators (KPIs) in finance (margin, cost control, income enhancement), human capital (staff turnover, absence rates or student recruitment and retention), or to standards required by professional accreditation bodies. Universities are increasingly measured and monitored by government through governance. Metrics based on regulation and compliance with standards have become the norm (although these may differ even within the UK depending on the remit of the devolved administrations of Wales, Scotland and Northern Ireland). More recently, all staff have been facing newer initiatives and targets on risks and contingency planning (ever more relevant with Covid-19 and other systemic threats), complex health, safety and wellbeing requirements, sensitivity to and planning for issues of race, gender, sexuality, disability and age, and demands for knowledge transfer, commercialisation and monetisation of intellectual property.

In trying to progress the complex interlocking agenda of climate change, resource use, human rights in supply chains, local action, building design, curriculum design, research strategies and many more, sustainability leaders face a challenge 'being heard' above a background of multiple competing issues. In particular, the busy and changing workloads and 'bandwidth' for middle and senior managers who face information overload and prioritisation challenges, even where sustainability is declared a 'priority' in strategies and policies. Our first challenge identified is therefore one of **'being heard above the noise'**.

2. Lack of systematic, published evidence in key areas

When drafting the EAUC guide for Governing Bodies (referenced above) one of the authors (DG) was struck by the absence of a coherent, sustained and well synthesised set of academic studies to confirm specific claims often made. Whilst it is clear that students do report concern for sustainability, it is less clear how this translates into their choice of university, or what priority is placed on sustainability in their choosing. Although universities are ranked in multiple ways on sustainability performance (e.g. see below), a lack of systematic evidence exists linking sustainability performance to overall success, however defined.

Many sustainability leaders, though not all, come from the professional services, so evidence that is produced goes unpublished, or exists only in 'grey literature' and/or anecdote and social media. This gap of evidence, especially linking strategic sustainability themes to individual organisational success, can be a real challenge in change making. This **lack of systematic, published evidence in key areas** that sustainability leaders can draw on is our second identified challenge.

3. A complex set of choices, overlapping assessments and lack of an overall agreed set of sector-wide metrics
To date, there are no agreed 'standards for sustainability' for universities measured by government, and few KPIs at institutional level. Instead, success in sustainability is assumed through sector recognition delivered by a growing range of awards and informal league tables, such as the EAUC-endorsed Green Gown Awards (<https://www.greengownawards.org/home>), the student-led People and Planet green league table (<https://peopleandplanet.org/university-league>), or media-led Times Higher Global Impact awards (https://www.timeshighereducation.com/rankings/impact/2020/overall#!page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined). The Times Higher impact rankings, whilst relatively new, are likely to grow in importance, given the prominence attached to other Times Higher rankings. Each of these has its own criteria for success and differing levels of credibility amongst institutions and sustainability leaders.

Likewise, there are a plethora of initiatives and frameworks universities may engage with to help frame and take forward sustainability internally and within the sector. Universities may choose, for example, to sign up to the EAUC-led SDG Accord, with the Vice-Chancellor signalling commitment to embedding the SDGs across all areas of activity (<https://www.sdgaccord.org>). Sustainability leaders recently have been asked to take part in the UK Climate Commission, posing fundamental and complex questions on issues as diverse as data measurement and quality, supply chain responsibility, target setting in alignment with local authorities, food, aviation, building design, new technology, and integration of climate change into the curriculum (https://www.eauc.org.uk/climate_commission).

Those universities with endowment funds or investments face serious challenge from well organised student campaigns, or are challenged to demonstrate how they are a responsible investor, judged against principles such as the Principles for Responsible Investment (<https://www.unpri.org>). Investment Committees and Finance Directors will look for advice on the merits and approaches to be taken in judging these requirements. Sustainability leaders may be expected to move seamlessly from the technicalities of energy management to advising on investment strategies, risks of stranded assets and opportunities for sustainable technology investment (<https://carbontracker.org/terms/stranded-assets/>). Some have responded by creating new networks (for example, The Responsible Investment Networks Universities launched in 2019; <https://shareaction.org/rinu/>) for peer support and information-sharing.

In attempting to synthesise individual issues in order to create an overall framework, a UK sustainability leader may be faced with choices ranging from adopting a full scale environmental management system (such as International Standards Organisation ISO-14000; <https://www.iso.org/iso-14001-environmental-management.html>), to adopting principles for integrated reporting (of which multiple options exist, including the International Integrated Reporting Framework, <https://integratedreporting.org>; and the Global Reporting Initiative, <https://www.globalreporting.org/information/about-gri/Pages/default.aspx>) or using one of several sustainability assessment tools, such as LIFE (<http://www.eauc.org.uk/life/home>) or the Sustainability Leadership card (https://www.sustainabilityexchange.ac.uk/sustainability_leadership_scorecard_annual_repo). Each choice requires time and resource but brings differing interpretations of scope, priority, measurement and data requirements. In addition to these tools, which attempt to create an overall, organisation wide picture, dozens of tools exist to capture elements of sustainability – from investments to campus natural systems, from organisational readiness for a changing physical climate to ‘how to’ guides to integrated sustainability across the curriculum. **This complex set of choices, overlapping assessments and lack of an overall agreed set of sector-wide metrics** is the third of the challenges we identify.

4. Apparent lack of student prioritisation of sustainability during the process of choosing an institution

A key component of universities legitimising their purpose has been understanding and responding to stakeholder need. With rising interest in sustainability (and particularly key issues of climate change, plastics, ethics and social justice) amongst student and potential student bodies, there may be opportunity for sustainability leaders to engage strategically with their institutions bringing academics, professional services staff and students together for a unified purpose. Recent research showed that staff seeking to influence strategic agendas perceive students and student union officers as two key influencers within their organisation with regard to sustainability (68% and 62% respectively). This level of influence was broadly similar to the Vice-Chancellor’s office at 63% (NUS, 2019). With increasing ‘massification’ and ‘marketization’ (Haddock-Fraser *et al.*, 2018) there seems to be considerable opportunity for universities to align their market position with this increased interest.

Interestingly, the student response shows a less compelling picture. In 2019, the UK-NUS noted that, whilst over 80% of students believed that ‘sustainable development is something that that their institution should actively incorporate and promote’, students focussed instead on employment prospects after completing the course, the reputation of the university, course and teaching when choosing where to study (NUS, 2019). Fewer than half respondents considered ‘How seriously the university/college takes environmental issues’ an important factor. This concurs with choice modelling surveys (McManus *et al.*, 2016), which tested university choice comparing sustainability profile against a basket of other factors (research league table, student satisfaction etc). It showed that the institution’s

sustainability profile and success (measured through the ‘green league’ table position) was the only attribute not considered relevant in choice of institution. The findings further suggested that students may prioritise sustainability in a negative sense when applying, i.e. that poor sustainability performance is a ‘hygiene factor’ rather than a driver of choices. The results above from the University of Edinburgh internal surveys reinforces the sense that once at the institution students may use sustainability performance as a key measure of overall organisational performance and a factor inputting to their overall sense of satisfaction. This **apparent lack of student prioritisation of sustainability during the process of choosing an institution**, or at least the lack of strong evidence for that claim, is the fourth of our identified challenges.

5. Varied interpretation and competence to deliver on mission statements and values

As universities have moved towards bureaucratic and/or corporate cultural models (McCaffery, 2013), the production of mission statements, values, purpose and institutional strategies are now the norm. Within these there are a disparate range of mechanisms by which institutions engage with and interpret the term ‘sustainability’. Below are examples where the notion of universities as being for the public good, benefiting society and environment, are explicit.

- The University of Edinburgh (UK) vision: “Our graduates, and the knowledge we discover with our partners, make the world a better place” (<https://www.ed.ac.uk/about/strategy-2030/our-vision-purpose-and-values>).
- University of British Columbia (Canada) purpose: “Pursuing excellence in research, learning and engagement to foster global citizenship and advance a sustainable and just society across British Columbia, Canada and the world” (<https://www.ubc.ca/about/vision-values.html>).
- MIT (USA) mission: “The mission of MIT is to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century” (<https://mitadmissions.org/help/faq/mit-mission-statement/>).
- University of Manchester (UK) purpose: “We will be recognised globally for the excellence of our people, research, learning and innovation, and for the benefits we bring to society and the environment” (<https://www.manchester.ac.uk/discover/vision/index.htm>).

These statements provide hope and promise that the institution is putting sustainability front and centre of its strategy and purpose, as they can be interpreted as referring to the ‘holy trinity’ of economic, social and environmental sustainability. But individuals have different views as to how best to ‘serve the nation and the world’ or what a ‘sustainable and just society is’ and how to deliver it. For sustainability leaders, such statements can be interpreted as sustainability-goals first. However, a Director of Finance may consider sustainability as a notion to mean ‘financial viability’ within which wider environmental and social ambitions are considered only if financial ‘sustainability’ is maintained or enhanced.

Recently, some universities have embraced Integrated Reporting, where valence is given to a wider range of attributes beyond financial capital (IIRC, 2013; Porritt, 2005). A sustainability leader should have a clear role in advising on how at least two of the capitals (natural, social and relationship) are drawn upon. This broader view could be very important to strategic and finance functions as they identify, shape and report on the underpinning business model. However, the challenges of bandwidth, complexity, and lack of seniority faced by sustainability leaders, combined with a general lack of understanding of the concept, risks value model/integrated reporting work being done in the absence of the involvement of the sustainability leader. Furthermore, sustainability leaders may lack familiarity with the basic concepts and means of communicating and persuading at strategic/financial level (EAUC, 2018). This makes it difficult for sustainability leadership to 'talk the language of business' needed.

There may also be a mismatch between institutional stated ambitions and the reality of the sustainability leader's remit. It is difficult to deliver across the full palette of sustainability objectives (as per the UN SDGs) at institutional level if the individual responsible for sustainability does not hold a sustainability remit at Executive Group level or reports directly to it. There are notable examples where this does happen: for instance, the University of the West of England's sustainability lead is an Assistant PVC level and the University of Manchester's lead is a Vice-President for Social Responsibility. For the most part, however, institutional sustainability leadership is held within estates or learning and teaching functions (see challenge number 7 below), where levels and scope of responsibility cannot cover the full extent of an institutional sustainability agenda. From this, our fifth challenge for sustainability leaders is working with **varied interpretations and competence to deliver mission statements and values**.

6. Limited key performance indicators for sustainability
Strategic intent is measured through KPIs to enable quantification of performance for the benefit of governance. Within these, sustainability is poorly served beyond regulatory requirements. Universities across the UK are required to report quantified operational carbon emissions². Beyond statutory carbon reporting KPIs set by a university (aka Senate or Council) most likely relate to a single simple measure such as ISO standards compliance (e.g. ISO14000). This does not invalidate the immense progress that has been made in many universities to get aspects of sustainability recognised front and centre of the university's strategy (for example, at Canterbury Christ Church University) or that quantitative measurement of sustainability progress is not measured within the organisation (e.g. University of Edinburgh's social responsibility and sustainability targets;

<https://www.ed.ac.uk/sustainability/governance-publications-reports/reports/2017-18/key-performance-indicators>). Rather there is a lack of follow through between these and measurement in a governance context. This is not unique to higher education but part of a wider recognition that measurement of sustainability is rarely integrated into strategic performance measurement and that social and environmental measures are disconnected from financial performance (Hristov & Chirico, 2019).

This can be both an opportunity and a constraint for sustainability leadership. On the one hand, having a 'headline sustainability KPI' enhances its prominence within formal, higher level organisational reporting, increasing senior management and governing body time and attention, and prominence in risk registers, capital and resource plans, communications strategies and estates strategies. Conversely, it could marginalise the wider sustainability agenda (as presented in the UN-SDGs) as the focus is given to a specific target only. A focus on quantified (relatively), easily measured metrics can distort time and attention away from more important issues or suggest that delivery of that metric fully discharges an organisation's responsibilities. It can also reduce opportunities for cross-cutting creative and added value solutions.

For instance, incorporation of operational carbon emissions within a university's key metrics can add welcome focus in reducing emissions as part of a key contribution to tackling climate change. But there is a risk that the entire rich, textured approach to questions of social responsibility, sustainability and ethics is reduced to a single measurement of how much gas and electricity is used and how much travel an organisation undertakes. As such, a focus on operational carbon is unlikely to generate a whole institution approach and the enormous potential of a University to tackle climate change via other key routes – what it teaches, what it researches, what it buys, how it invests and how it communicates and influence policy – may be lost. Even within operations, a focus on operational carbon risks excludes important issues such as preparing to adapt for a changing climate and the link to nature and natural resilience, or the whole life carbon and embodied carbon associated with building design and major capital programmes. From this, a challenge for sustainability leadership is the lack of strategic focus across the wider sustainability agenda brought about by the **limited key performance measurements for sustainability** in most universities.

7. Bewildering institutional structures and cultures

Currently, many sustainability leaders are based with an estates department or operational setting, even though it is acknowledged that there is no 'once size fits all' approach to structures and responsibilities (Appleton, 2017). This can bring real benefits in terms of understanding detailed operational questions, being closer to decisions affecting fundamental climate change performance and influencing energy, waste and transport. However, it comes at the expense of having the time, legitimacy and influence to engage on equally important issues, including research strategy, curriculum, investments and overall strategy. This is further reinforced by many sustainability

² In Scotland this is a statutory requirement as part of the public bodies duty required under the Climate Change (Scotland) Act 2009 (<https://www.gov.scot/publications/public-bodies-climate-change-duties-putting-practice-guidance-required-part/>). This requirement is also reflected in the annual outcome agreements concluded between universities and the Scottish Funding Council, under guidance from ministers.

leaders being middle ranking managers or officers, and rarely holding senior manager posts at 'Director of Sustainability' level; a pattern that is replicated globally. Lack of seniority can mean lack of access and information and a reliance on senior champions who may 'come and go', adding to the challenge of trying to make long-term, organisational-wide changes. Even where seniority exists as a sustainability leader, there may still be challenges in terms of being involved in the development of the University mission and strategy.

There are real opportunities arising from the pursuit of inter-linking academic, student and University operations to create a culture of applying academic knowledge to solve operational challenges and equally to allow practical examples for academic and student study and learning. This strategic opportunity has been identified in the 'living labs' approach (Waheed, 2017). In practice, securing a successful living lab can be challenging, for example, in terms of matching academic cycles to business needs, data availability, and the challenges of co-design (Cooper & Gorman, 2018). More generally, a lack of familiarity of each other's worlds between academic and professional services is challenging for sustainability leaders coming from either side of the divide. Assumptions, ways of working, differences in intellectual models and frames of references, differing demands in terms of workload, metrics and timescales come together to create our seventh challenge – the gap that exists to varying degrees between the worlds of academe and professional services and the **bewildering institutional structures and cultures** in higher education.

8. Challenge of narrative, consistency and endurance

Finally, to compound all of the above problems, sustainability leaders may focus on admirable but individual technical projects, awareness-raising programmes and awards that – whilst of value in and of themselves, and in raising awareness and support – do not add up to a coherent programme of change. Given limited resources, absence of a full suite of management information, and faced with a wide range of issues to address, it makes sense to begin with smaller, more modest and more achievable projects and goals. However, this adaptation to fit circumstances and context comes at a price – a lack of obvious coherence and a less than convincing link to overall strategy. This risks a final problem – the projects do not generate sufficient support to embed to any degree in organisational culture or strategic thinking. This brings the risk of a lack of duration/longevity in planning, projects and even in people.

Faced with all of the above challenges, and with limited time, attention and capacity, sustainability leaders may focus on the achievable and the 'bottom-up'. This weakens the sense that sustainability is a core issue, and also weakens the 'story' being told. Even addressing modest challenges may prove time consuming and difficult, as the challenges listed above (prioritizing, information, culture, metrics and overlapping tools) come together to make projects an extended and risky venture. Projects may fail after a great deal of effort and time has been expended, reinforcing the view perhaps that

sustainability is not, and never was, a desirable or core activity. This real challenge of trying to start from a realistic position, whilst adhering to broader strategic goals, whilst maintaining coherence, capacity and consistency over time, is our last identified challenge – the **challenge of narrative, consistency and endurance**.

Opportunities for sustainability leadership: 5 key models

In light of the above, sustainability leadership in universities feels for many an insurmountable challenge. As discussed in the introduction, the EAUC, as the member organization for sustainability in universities and colleges in the UK and Ireland has sought to support its members navigate this challenge through the development of its Leadership Lab programme. In 2019 and 2020 the programme took on a more comprehensive approach compared to its earlier form, which focused on the CBI-S decision tool (Sharp, 2015). The revised programme sought to support leadership through:

- Methods to measure sustainability activities in relation to bringing value to universities;
- Opportunities to understand and navigate organizational cultures and structures for successful leadership and decision-making;
- Presentation of theories and good practice adopted by successful sustainability leaders.

The themes were determined through discussion with senior leaders, academics and sustainability professionals in the sector where there was a call for learning to help inform practice and provide an opportunity to learn from the small number of universities trying out new methods of decision-making, evaluation and reporting. The models and concepts presented ranged from those at a nascent stage of application (or even untried) in the sector or developed from collective evidence of practice from successful sustainability leaders. The Lab was also informed by responses to models and concepts introduced by Haddock-Fraser *et al.* (2018) and sense-tested through sector-wide symposia, conferences and seminars involving a wide range of sustainability professionals and leaders between 2017–18. The Lab delivered in 2019–20 considered and explored the following five models across the two dimensions of (i) understanding and measuring value, and (ii) sustainability leadership, management and change making.

Sustainability and value

1. United Nation Sustainable Development Goals (SDGs). In 2015 world leaders committed to the ambitious and transformative set of goals, the Sustainable Development Goals (SDGs) (United Nations, 2015). Member states, businesses and civic society are now expected to use the SDGs to frame their policies, organisational goals and political priorities over the period to 2030 (see Figure 1).

The SDGs flow from and expand on the Millennium Development Goals (MDGs) agreed in 2001 and ran



Figure 1. The United Nations Sustainable Development Goals. Source: UN (2015).

until 2015. These are broader in nature and even more ambitious than the MDGs, although as Brown (2016) notes:

“The SDGs have not been without their criticisms. Seventeen goals with one hundred and sixty nine indicators have been viewed as unwieldy and could make prioritisation difficult and, of course, like all these issues will not be able to please all stakeholders. At the same time there is widespread support for the broad based approach. Whereas the MDGs were more focussed on poverty alleviation, the SDGs have encompassed a broader sustainable development agenda focussing on economic development, poverty alleviation, human rights and ecosystems.”

The SDGs were agreed in the same year (2015) as the Conference of Parties 21 (COP 21) to the UN climate convention occurred – commonly known as the Paris Agreement – and are linked via SDG goal 13 on climate action.

Clearly, with such a wide-ranging set of goals and targets, there will be certain goals that are more relevant to individual organisations and a need to prioritise and focus. For businesses, the Global Reporting Initiative in partnership with the UN Global Compact and the World Business Council on Sustainable Development has developed the SDG compass (GRI, 2015) to guide businesses through the process of understanding the SDGs, defining priorities and goals, and integrating across organisational activities. For higher education, the EAUC along with equivalent global representative bodies developed the SDG

Accord in 2017 (<https://www.sdgaccord.org>). The Accord hopes to both celebrate and advance the role of education in delivering the SDGs, and to assist Universities to deliver the goals.

2. Integrated Thinking and Reporting. As discussed in the section above, the purpose of universities has been under scrutiny, in response to funding changes and more competitive market conditions. Within this, providing clarity on how they provide value has become central. However, universities are not private companies, but rather organisations that operate within a market-economy but for the ‘public good’³. Measuring their value needs to consider their profit (or margin) and the value of their asset base, usually property and land and also the net positive value of their activities more widely. It was to address this challenge and to provide sustainability leaders with a toolkit to engage with business language, that the Lab included content on the use of the Integrated Reporting Framework (International Integrated Reporting Council (IIRC), 2013) or ‘six capitals’ model, following Porritt’s Five Capitals Model (Porritt, 2005) in his now iconic book *Capitalism as if the World Mattered*.

³ A public good is defined as being one which is (i) non-excludable (i.e. the benefits from their consumption is not limited to those who have paid for them); (ii) non-rival consumption (i.e. the consumption by one person does not exclude consumption by others, it is available to all); (iii) non-rejectable (i.e. it is part of society); (iv) funded and provided through public sources, such as through government funding, and private means in some circumstances

In 2013 the IIRC introduced the Integrated Reporting Framework (I<IR>F) with the aims to:

- Improve the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital;
- Promote a more cohesive and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors that materially affect the ability of an organization to create value over time;
- Enhance accountability and stewardship for the broad base of capitals (financial, manufactured, intellectual, human, social and relationship, and natural) and promote understanding of their interdependencies;
- Support integrated thinking, decision-making and actions that focus on the creation of value over the short, medium and long term (International Integrated Reporting Council, 2013 p.2).

Increasingly, strategic thinking and measurement within corporations has moved away from reporting that only focusses on financial success, through a period where a series of ‘stand-alone’ reports on specific issues being produced, towards a concept of ‘integrated’ reporting. However, the true value

of reporting is when it is integrated into the concept of value, and an organisation has a systematic and mature view of the ‘capitals’ that it draws upon and the value it creates, and the capitals it enhances. This integrated reporting model is provided in Figure 2.

The I<IR>F has seen many iterations since its initial development, including a mapping exercise of the UN SDGs onto each capital (Adams, 2017), and a deeper understanding of its application through wide-scale take-up. Large accountancy and consultancy companies have also developed proprietary models with similar principles (such as PWC’s Total Impact Measuring and Management Framework, (PWC, 2020)).

Moving from this conceptual model to operationalising it in a way that informs decisions is complex and work from the British University Finance Directors Group (BUFDG) with the IIRC and Leadership Foundation for Higher Education (LFHE now subsumed in Advance HE) showed that few UK universities have advanced beyond the early stages of thinking (<https://www.bufdg.ac.uk/ir>). In 2017–18 the sector’s leadership training organization Advance-HE⁴ provided a government-funded pilot

⁴ Previously Leadership Foundation for Higher Education

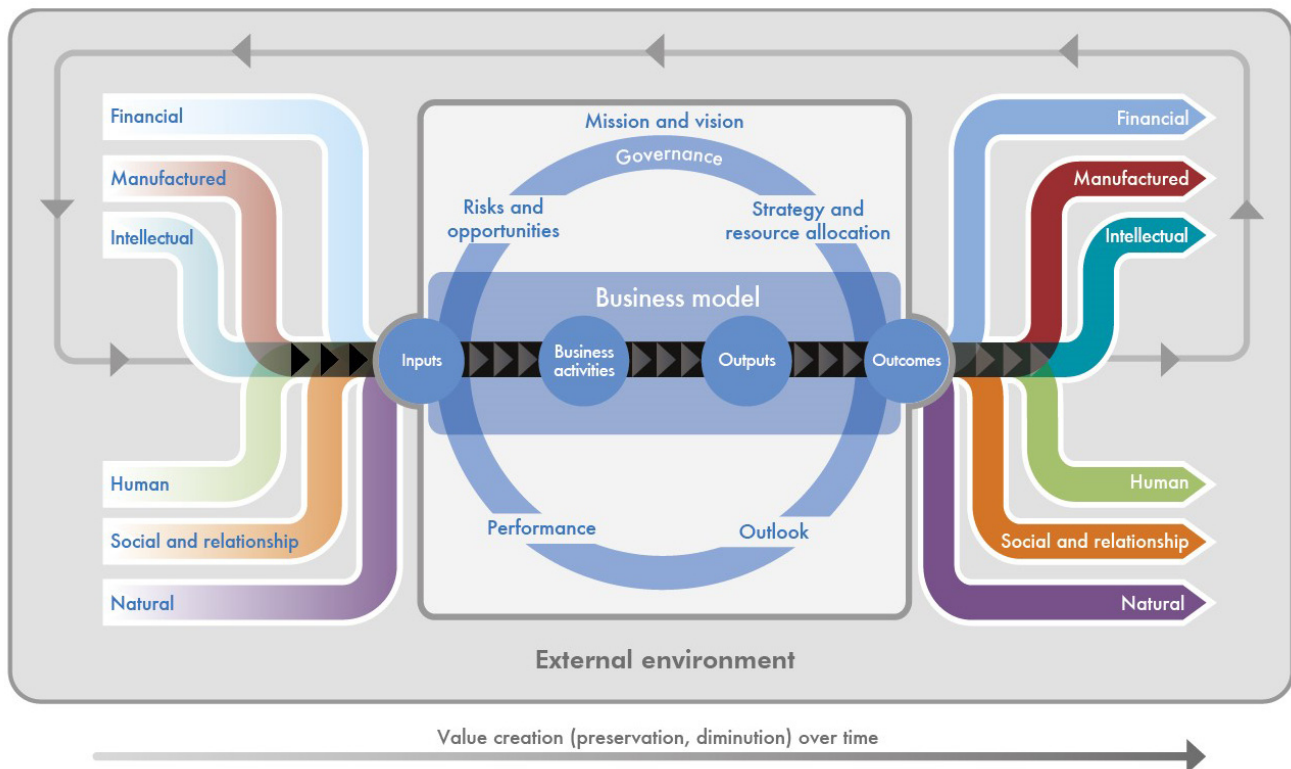


Figure 2. Integrated Reporting Value Framework (I<IR>F). Source: International Integrated Reporting Council (2013). Copyright © December 2013 by the International Integrated Reporting Council ('the IIRC'). All rights reserved. Used with permission of the IIRC. Contact the IIRC (info@theiirc.org) for permission to reproduce, store, transmit or make other uses of this document.

for ten UK universities to establish how Integrated Reporting could be of benefit (Advance, 2017). However, within the pilot, none of the universities thought to include their institutional lead for sustainability, despite the relevance of natural capital and social/relationship capital to the I<IR>F. From this, it was deduced (and confirmed in discussion with the participants) that there was little understanding as to how sustainability could bring strategic value and benefit to universities and that measures were needed to help their institutional sustainability leaders understand how they could build expertise to enable participation at a strategic level.

3. The 5 Rs of Responsibility. The I<IR>F offers an all-embracing, thorough analytical lens through which to view value and a model that could offer benefit in the long-term. But its implementation can seem a daunting task. During one of the author's (JHF) terms in senior management and during attempts to engage colleagues in appreciating the institutional benefits of sustainability action (such as identified in Lesourd & Schilizzi, 2001; Vogel, 2005), it became clear that sustainability leaders also needed something to provide attention-grabbing, 'quick-win' conversations within their institutions – not least to help discussions around annual budget allocation for sustainability teams and their functions. There was also a sense that the terms 'capital' and 'value' jarred with some sustainability leaders, deeming them instrumental measures and incongruent with their wider ethical and responsibility values. As such, within the Lab the I<IR>F was delivered in tandem with a simple matrix model to communicate value using the mnemonic 'The 5 Rs of Responsibility' (Haddock-Fraser, 2017). The model was

devised to help sustainability leaders frame their initiatives as offering one or more of the following benefits to the university, which was explained with the use of the diagram presented in Figure 3:

- *Reduced cost* (for example, energy cost savings)
- *Enhanced Reputation* (with staff, students and other stakeholders)
- *Regulatory compliance* (a compulsory requirement for most with risks of non-compliance)
- *Reduced risk*, whether of reputation or through other measures such as insurance costs
- *Right thing to do*, building on the university's values and mission.

The use of the model as a justification for decisions had been tested *post-hoc* on a sample of university sustainability leaders before being introduced in the workshop, where it showed 59% of initiatives reduced cost, 68% could enhance reputation, 23% were for regulatory compliance purposes, 20% reduced risk and 47% were built on the 'right thing to do' (initiatives could offer multiple benefits) (Haddock-Fraser *et al.*, 2018).

Leadership and decision-making in higher education

4. Leadership for Sustainability. Within leadership theory, there is a distinct, growing sub-section on sustainability leadership theories. These range from identification of individual leadership traits and styles (Christensen Jr, 2012; Shriberg, 2012) to

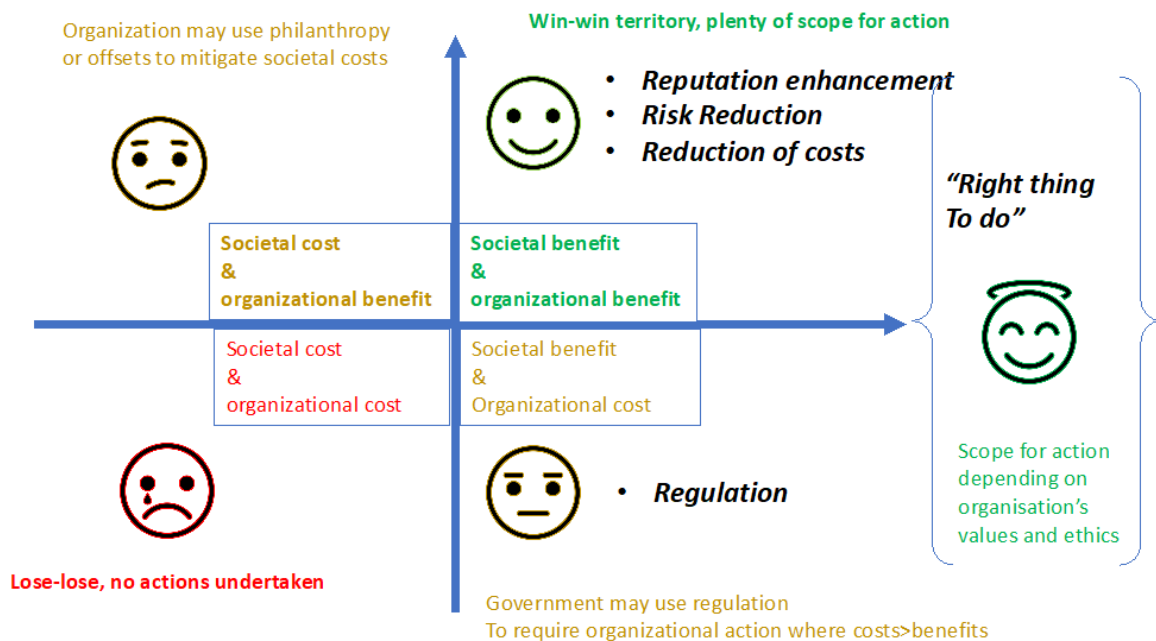


Figure 3. Framing decision-making for sustainability. (Source: Author, J Haddock-Fraser).

processes to follow to guide sound sustainability leadership. Two particularly resonant ones have been:

- Transformational leadership enabling action in an organisation whilst transforming values, attitudes and behaviours of those being led (see [Sheil, 2013](#); [Shriberg, 2002](#); [Waldman et al., 2006](#))
- Deep systems leadership, with leadership understanding the complex organisational-societal ‘ecosystem’ of dependencies and co-dependencies, uncertainty and incomplete information on which to base decisions ([Satterwhite, 2010](#); [Wielkiewicz & Stelzner, 2010](#)).

The enduring question as to whether leadership is about the person or what they do reflects debate throughout leadership theory: from ‘great man’ traits, through to leadership style or situational leadership models ([Northouse, 2016](#)). Mirroring Handy’s ‘best fit’ pragmatic (or contingency) approach to leadership theory (1993), Visser and Courtice developed a model for sustainability leadership recognising the need to understand (i) external environment; (ii) organisational context; and (iii) individual leadership attributes, with successful sustainability leadership being a successful interplay of understanding and acting on these ([Visser & Courtice, 2011](#)). The model does not provide a neat ‘check-list’ of actions for success but instead guides leaders to appreciate the interplay of knowledge of context with interpersonal and personal skills and styles.

This model was selected for use in the Lab as it offered a practical means to recognise and appreciate the politics and organisational culture of their institution and opportunities/threats arising from the external environment; but also to reflect on what their individual leadership attributes were – and how these could be leveraged for influence or enhanced to mobilise action. This was pertinent as some Lab participants had worked outside of higher education previously so understanding how to

engage with the morass-like academic cultures was something of a challenge preventing mobilisation to action.

Core Business Integration for Sustainability (CBI-S) Model.

The CBI-S model has been a central component of executive healthcare programmes in the Centre for Public Health and Environment at Harvard University, and is a model that has been developed, refined and applied over the past two decades following its initiation by Leith Sharp ([Sharp, 2015](#)). The model is an ‘open model’ available through the Creative Commons.

The model involves the interplay between two observed operating systems (or ‘modes of organizational interaction’). The first, the ‘command-control’ system (CCOS) is more commonly referred to as the ‘hierarchy’ and articulated through organizational structure charts. Leadership and influence are present through line management largely so is largely ‘top-down’. Within a university this would be articulated through departmental/section management structures for example, with a management line from an individual academic through to the Vice-Chancellor via Head of Department, Faculty Dean, Pro Vice-Chancellor. The second is referred to as the ‘adaptive-operating system’ (AOS) and represents the informal, non-hierarchical and project type of interaction seen in creative and academic research activities. This system is more likely to be observed in working groups or project teams where participants engage irrespective of hierarchical ‘position’. Leadership in this system is shared, participatory and collaborative. The two systems are represented diagrammatically in [Figure 4](#) with the AOS on the left and the CCOS on the right.

Sharp’s hypothesis is that the interplay of the two systems is needed to enable successful and enabling decision-making in the area of sustainability with the CCOS needed to meet institutional need for legitimate decision-making and governance

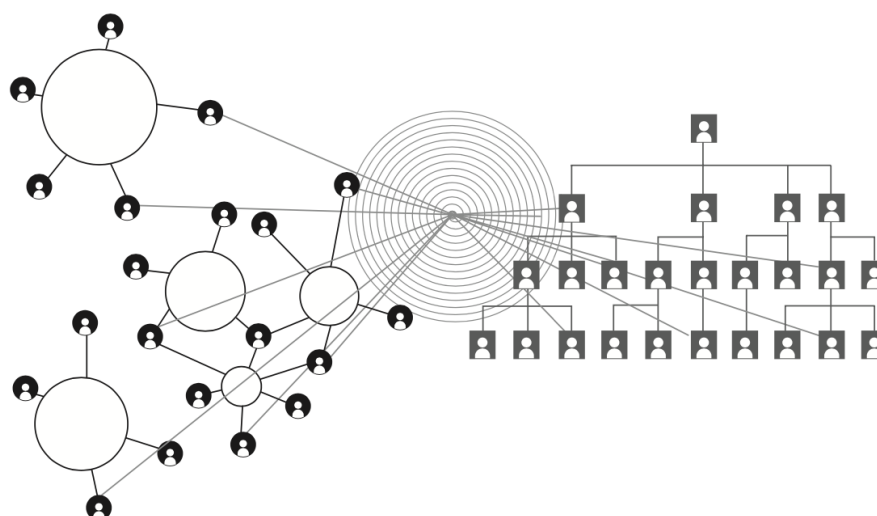


Figure 4. The CBI-S framework, highlighting the roles of command-control and adaptive-operating system. Source: ‘CBI-S model’ by [Leith Sharp \(2015\)](#). Licenced for open sharing and adapting under [Creative Commons Attribution-ShareAlike 4.0 International license \(CC-BY-SA 4.0\)](#).

and the AOS system needed for creativity and interdisciplinary or inter-functional thinking to deal with the complexity of navigating priorities and effective actions for sustainability, as well as the creativity needed to deal with the range of wicked problems and confounding priorities sustainability brings. This is represented in Figure 5 below, where creative teams (AOS) engage in two-way dialogue to inform and be informed by the CCOS or hierarchy. An example of how this was used in practice was provided by Sharp (2015) to illustrate how a Green Academy and Futures Initiative project team at Canterbury Christ Church University used the AOS to develop concepts and run pilot projects, using the CCOS to provide seed funding initially but then to authorize learning and teaching strategic frameworks for sustainability.

The leadership lab experience and value gained

The Leadership Lab programme ran in January 2019 and January 2020, each using the models outlined in the section above. There were 18 participants in 2019 and 14 in 2020 (30 separate participants in total, excluding one of the authors (DG) who attended the first and co-presented on the second, and one participant who attended both years). The other author (JHF) co-developed and co-presented the programme in both years. The participants had all been invited to attend by the EAUC based on their influencing role in their institution, not necessarily their seniority in the organisation. As such, participants ranged from academics leading for institutional sustainability or education for sustainable development and professional service staff operating within Estates-led sustainability teams, leading such teams or 'sole operators' (with no or few staff) taking forward aspects of sustainability for their organisation.

In order to understand the value of the programme to the participants, we requested their participation in a short survey, summary results of this are provided below and provides a starting point for probing whether the models and concepts were

helpful. However, as many of the participants were at institutions where sustainability is not yet strategically embedded at institutional level we have also presented a detailed case study from the University of Edinburgh that critiques how the models and concepts presented above and used in the Leadership Lab have been effective in practice. The University of Edinburgh has been selected as (i) leads sustainability there (DG); (ii) as an institution it is at a relatively advanced stage of strategic sustainability integration (winning awards such as the Green Gown Institution of the Year award in 2018 and sustainability leadership awards prior to that) and so provides an example of 'the art of the possible'.

Leadership lab survey method and results

A short survey instrument was developed by the authors to seek feedback from the 2019 and 2020 programme participants⁵ to establish the value of the five models presented in this paper. It was sent by email from both authors during March 2020 and the results and comments collated onto an Excel spreadsheet. It was structured around three Likert-scale questions seeking scores on (i) prior knowledge of each model; (ii) resonance of each model during the programme; and (iii) usefulness of each model since the programme. From these we probed qualitatively for clarification on the scores, as well as on potential institutional or timing barriers. The survey was sent to 30 participants and 10 responses were received – three participants from the 2020 cohort, seven from the 2019 cohort. We noted that for the 2020 cohort there would have been little time for

⁵ Full ethics approval was obtained for this research through the Faculty of Business and Law Ethics approval process (EthOS) at Manchester Metropolitan University. Approval was given on the basis that no individual or institution could be identified in the results and response to the invitation to participate in the survey implied consent to participate. Data is provided in the repository link provided in the Data availability section.

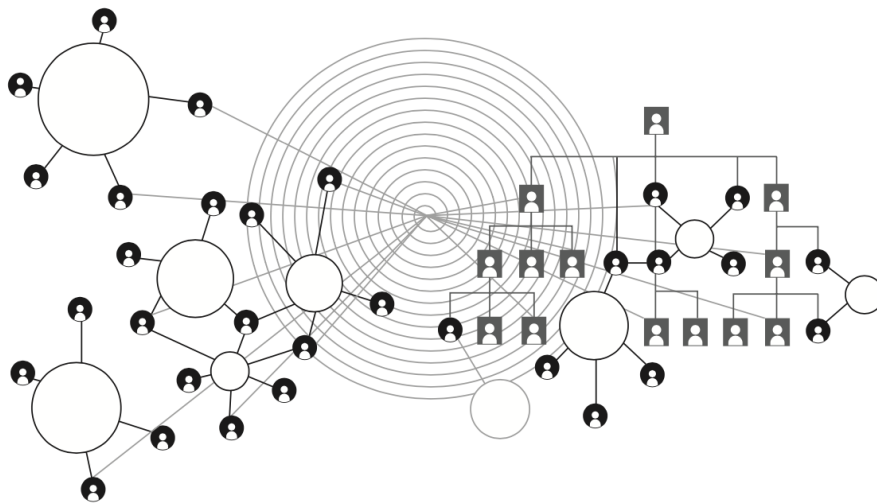


Figure 5. Command-control and adaptive-operating system merged engagement. Source: 'CBI-S model' by Leith Sharp (2015). Licenced for open sharing and adapting under Creative Commons Attribution-ShareAlike 4.0 International license (CC-BY-SA 4.0).

individuals to have made use of the models within their institutions and the survey request in April 2020, although a scan of the scores did not show particular differences from the 2019 cohort.

The results from the Likert scale questions are provided in [Table 1](#) below.

The use of SDGs is clearly becoming normalised within universities, with half the participants having good knowledge of them already. Many use them within their institutions with only one respondent not engaging with them at all. The other models were largely new to the participants unless they had come from other sectors recently. Outside of the SDGs, the 5 Rs model and Integrated Reporting were found to have the highest resonance during the Lab and in a practical context afterwards. Participants found the 5Rs “*practical, easy to remember and follow, useful with a range of audiences, provided a range of approaches possible, and particularly helpful when writing business cases*”. Integrated Reporting was also well received during the programme with participants finding it “*intellectually stimulating, a useful way to understand value from a wider perspective and how sustainability can be woven into wider business performance*”. However, in terms of practice participants struggled with their lack of influence in their role to change business reporting processes. This would be needed to introduce integrated reporting, although for some it did inform how they could structure their communication and advocacy outside of their role.

The CBIS and Cambridge Leadership model resonated the least with participants both during the Lab and afterwards. Both models were seen as intuitively helpful, with the Cambridge Leadership model providing a helpful ‘checklist’ that reminded participants of the range of influencers and attributes relevant for some “*provided a simple, practical and tangible model of*

leadership that was easy to grasp and follow”, but seemed to depend on the individual’s perception of their influence “*I found it hard to visualise how to use it to make changes in my organisation, starting from my position within that organisation*”. Additionally, it struggled to be heard above the ‘noise’ of other leadership frameworks or institutional leadership skills development programmes “*Cambridge model already overlaps with other skills mapping techniques we use within the workplace*”. The CBIS model had a mixed response ranging from those who found it legitimised the way they were working “*it is what I had been doing without realising it*” and “*having had this presented to me, it was obvious that this was an approach I had seen before*”, to others who felt it too esoteric “*too abstract except as a thinking prompt*” or that they were not in a position to influence the university to work in this way “*felt I would need more agency in my organisation before I could get this to work*” and “*This model feels a bit too aspirational given that HE is rooted in CCOS (albeit without the control element at times!)*”.

In terms of barriers, respondents between them highlighted the whole range of issues at institutional level identified in this article as the ‘eight key challenges’, itemising: “*systemic failings*”, “*other priorities (e.g. growth and income generation)*”, “*louder noise coming from other agendas*”, “*lack of joined up thinking*”, and “*senior management understanding that sustainability is not ‘other’ but central to core business and the success of the organisation*”. Two of the respondents were more positive, where they were from institutions that have embraced sustainability at a strategic, cross-institutional level.

The results from the survey suggest the following:

- There was substantial will amongst the participants to understand and learn changed ways of working to advance their sustainability aspirations for their institutions, with a ‘will try’ mindset;

Table 1. Mean results from participant survey of the EAUC Leadership Lab 2019 and 2020. N=7 for 2019; n=3 for 2020.

	Cambridge Leadership ⁶	CBIS	5 Rs	Integrated Reporting	SDGs
To what extent did you have knowledge of the models and/or concepts within the models below prior to your attendance on the Programme? (3-point scale)	1.0	1.2	1.4	1.9	2.4
To what extent did the models presented resonate with you in your role as a sustainability leader/influencer in your institution during the programme? (5-point scale)	3.29	3.6	4.3	4.4	4.5
To what extent have the models presented already influenced or are likely to influence your practice in your professional role? (5-point scale)	2.57	3.3	4.0	3.8	4.4

⁶The Cambridge leadership model was not presented explicitly during the 2020 workshop, so the results presented are for the seven respondents from 2019 only.

- The starting point for participants ranged between those who have difficulty being heard above the noise at all to those who are able to make more advanced contributions to sustainability. Because of this, we suggest that a starting point for all is to use the 5Rs framework and the UN SDGs as these have more immediate resonance;
- There was frustration about lack of 'being heard' or being in a position to suggest or apply some models (particularly I<IR>F or the CBI-S model, but for the participants their knowledge of these could be used for intrinsic, rather than explicit influencing).

University of Edinburgh case study: learning the lessons of leadership

Context. The University of Edinburgh is a globally renowned Top 20 University and a large organisation in its own right. Sustainability leadership matters there because:

1. The University, through its research, has the opportunity to tackle some of the most profound and pressing challenges of the twenty-first century – indeed to create the new knowledge required to underpin delivery of the SDGs.
2. Each decade will mean hundreds of thousands of students will pass through the University, so the extent to which sustainability and the SDGs are embedded in the curriculum is vital.
3. The scale and reputation of the University gives it the potential to significantly drive forward social responsibility and sustainability – through zero carbon building design, being a responsible investor, employment, widening access opportunities and standard setting with suppliers for sustainability and human rights.
4. Finally, the nature of a University gives it the ability to take a long-term view, and to consider matters of public good and positive impact. Indeed the University's new strategic plan, Strategy 2030 (<https://www.ed.ac.uk/about/strategy-2030>) makes this commitment:

"As a world-leading research-intensive University, we are here to address tomorrow's greatest challenges. We do that with a values-led approach to teaching, research and innovation, and through the strength of our relationships, both locally and globally".

This combination of factors – creation of new knowledge, curation of young minds, ability to take a long view and focus on public good (combined with a scale, reach and reputation) – underpins a theory of change that looks to take action, try, learn lessons, tell a story, influence others, then review and improve further (Brown, 2017). With these lofty goals in mind, the University took a decision to establish a Department for Social Responsibility and Sustainability (DSRS) in 2013. Reflecting this broad remit, and the overall commitment from the University, the DSRS is a relatively large team with between 18-24 staff, and a budget of c£1.5m. We discuss below how the DSRS has

responded to the eight challenges for sustainability leadership and the applicability of the five models to the team and wider university.

Edinburgh and the eight challenges Earlier in this article, we identified a series of eight challenges that sustainability leaders could or would face in attempting to secure progress. How does the presentation of the work and progress of the DSRS over the period 2013-2020 reflect and interact with those challenges?

First, **'being heard above the noise'**. This was a key challenge in the early stages of the department's work and reflected the complexities of the agenda itself. A combination of sustained effort, building alliances, understanding the University and its priorities, deploying engaging communications and stories, and ensuring a focus on keeping promises to delivery, were key here. EAUC 2019 and the videos embedded within discusses this issue in greater detail (https://www.sustainabilityexchange.ac.uk/files/eauc_business_case_guide_final.pdf). In this context, the models for integrated reporting, 5Rs and CBI-S are particularly relevant – understanding value creation, seeking a range of benefits from programmes, finding language to communicate them and understanding how change happens.

Second, **lack of systematic, published evidence**. This was and remains a key challenge. From the start, the DSRS has had a thirst for better information and tools – energy data, waste arisings, carbon emissions, ways to measure investment exclusions, how to communicate most effectively, how to measure 'sustainable procurement', what represents a good measure of 'awareness and engagement', how to measure integration of the sustainable development goals- and several dozen more questions. We have overcome this challenge in one of three main ways: generating the evidence from our own resources; working with contacts/networks at UK or global level to discover or generate the evidence; and learning lessons from other fields or other types of organisations. Examples of the first type might be our internal surveys of staff and student awareness and priorities; examples of the second would be joint visits or exchanges, or collation of best practice reports; examples of the third type would be reviews of embedding of SDGs by business, or how virtual collaboration tools are deployed, or lessons from government on policy development and review. As a values-led organisation, we believe tackling climate change, sustainability and human rights issues is the right thing to do, and we believe our staff, students, alumni and stakeholders support us in that belief. But absent of proper study and evidence, it remains more belief than fact; indeed, a programme of research might wish to examine whether the question could ever be fully answered. This is the identified challenge where the five models presented appear to have limited relevance.

Third, **complex, overlapping assessments and lack of agreed metrics**. This remains an area of considerable concern. Despite a number of projects and discussions – from exploring integrated reporting to measuring greenhouse gases accurately and verifiably, from full engagement with a range of sector tools (such as the SLS, LIFE etc.) to close discussion

with strategic planning colleagues – the University continues to seek frameworks and metrics that move beyond activities and outputs, towards outcomes and impacts, but to do so in ways that do not require extensive and expensive monitoring, data collection and complexity. Again, the Integrated Reporting model is relevant here and has been applied at Edinburgh.

Fourth, **understanding students and what motivates them** remains an ongoing challenge, and long-term consistent time series data at an organisational level does not (yet) exist. We can say with some degree of confidence, as evidenced by our surveys, student engagement with our programmes, and on the manifestoes with which elected student sabbaticals are elected, that the student community once arrived at Edinburgh is clearly and consistently concerned about Social Responsibility and Sustainability (SRS) issues. But to date, we do not have the same level of evidence that our SRS performance motivates students to select us. That said, it remains our view that the importance of these issues to students can only increase in the years ahead.

One issue where the ‘Edinburgh model’ may have a distinct advantage is in terms of the fifth identified challenge: **varied interpretation and competence to deliver on mission statements and values**. Here, the decision to create two (relatively) senior roles (Director/Deputy Director of SRS) has proved extremely helpful in terms of signalling the importance the University attaches to this issues, raising the senior capacity to make change, providing continuity of direction and purpose, and allowing access and influence at the most senior levels. Additionally the breadth of issues identified as SRS has provided the scope and legitimacy for sustainability leaders to be involved in areas that are often simply closed to other peers – from curriculum development to research strategy, from investment strategy to human rights protection, from the screening of donations to the influencing of commercial strategy. The same breadth of definition and scope, and the deliberate positioning of the DSRS and SRS issues generally at the intersection of operational activities, academic research and teaching and student interest, projects and experience, also assists with progressing the sixth identified challenge: that of the challenge of making ‘living labs’ a success, and bridging the academic-professional services divide, as well as **moving towards an agreed set of KPIs**.

In terms of our seventh challenge – **lack of involvement and familiarity with core strategic and financial concepts** (strategy making, integrated reporting, business case production, risk management) and confusing institutional structures and cultures – the tactics adopted by the DSRS in 2013-16, combined with the suggested inherent advantages of the Edinburgh model (the DSRS itself) listed in response to challenges one, two, five and six, mean that sustainability leaders at Edinburgh may be better placed to attempt to address this significant challenge. Reputation and track record, scope, legitimacy and better evidence are all immensely important to overcoming this challenge. In this context, all five of the Lab models would appear to add value from understanding the factors that shape the context (Cambridge model) to understanding value creation

(integrated reporting, SDGs) to finding ways to frame change and benefits for multiple audiences (5 Rs, CBI-S).

Finally, in terms of the eighth challenge – **embedding and longevity**– the answer must necessarily be conditional, partial and contingent. The University of Edinburgh has made significant strides over the last 7 years in progressing SRS issues, but in many ways, we remain at the beginning of a journey. Significant embedding has already taken place – in climate strategy, investment and laboratory management to name but three – but lessons from elsewhere show us how much more we can achieve. The Edinburgh model, a large, dedicated and multi-faceted expert department, has performed well to date but must always be seeking to renew its mandate and show its value. Indeed, an earlier iteration of the department’s values talked about ‘earning the right to keep being heard’. There are undoubtedly significant advantages in creating and maintain a relatively large, specialist and multi-faceted department, headed by senior directors. But there are clearly also risks – the organisation changes direction and new structures are created. Progress on issues is reversed, aspects thought embedded are not, institutional memory is lost. That is why, ultimately, if somewhat clichéd, it must be the aim of the DSRS to fully embed the issues across the culture of the organisation, on the way to removing the need for its own existence. To that end, ultimately the Integrated Reporting and 5R models provide the clearest opportunities to respond to this challenge.

University of Edinburgh and the leadership models. Over the various iterations of the EAUC leadership approach, the University of Edinburgh has been a consistent engager, both attending and latterly providing some teaching input. The reflections above were developed both in advance of attending the sessions in 2018 and 2019 and subsequent to them. The EAUC programme is highly valued by the University and strongly supported and this section will set out why the programme is valuable to the University’s efforts in the context of reflections on the utility of the models presented.

The first of the models presented – the SDGs – was both valuable and of limited value at the same time. Clearly the University was and is committed to the SDGs and was already wrestling at both Director/Deputy Director with the concepts and how to embed them. In one sense then, the inclusion of the SDGs was right and proper and of great value as they represent a major international initiative and a key lens for judging progress. In another sense, however, the course as structured could only be of limited further help here. Once the concepts are understood it is suggested that the deep work of trying to identify the ‘how to’ of operationalising the concept that is important, and doing so in the expectation that much will depend on organisational context and specific patterns of research, teaching and operations. To that end, the SDGs present a high-level framework for departure, not a detailed model to pick up and use. As experience continues to develop in the University sector in adopting the SDGs as a key lens, it may be that a useful development would be to extend the Lab to include methods and concepts to help

operationalise and embed the SDGs similar to the SDG compass for business (GRI, 2015).

The second model, Integrated Reporting, is again clearly important in terms of the need to embed sustainability and environmental and social issues into the lifeblood of the University's core business model and value creation proposition. In that sense, once again the course was of great value in touching on key concepts and bringing the need for progress to the forefront of discussions. Often, learning as a leader can include understanding where one is in the continuum of understanding from initial and partial to full understanding and to compare that to peers. Here it was clear Edinburgh had benefitted from the strong interest of the former director of finance⁷ and had given more thought to the concept and how to apply it. At the same time, and linked to the eight challenges discussed above (particularly those of complexity, prioritisation, delivery of mission and values and limited sustainability KPIs), turning the concepts of integrated reporting into actuality remains a key challenge, and again one where the course could only identify the needs and concepts, rather than the 'deep work' of delivery.

One of the 'aha' moments for this author (GB) on the course in 2019 was the discovery of the third model of the '5Rs' and the framing of differing benefits in terms of costs, risks, reputation and right thing. Additionally, the plotting of those benefits against the costs and benefits to the organisation and to society is extremely valuable in the context of providing an overall 'helicopter view' of the balance of activities. Not only did the model provide a simple but powerful visual and a readily rememberable set of five approaches, but it matched extremely closely to the strategy that the DSRS has been following, particularly in the period 2013–16. In retrospect, knowledge of the model in 2013 would have been extremely useful in taking a more thoughtful, strategic and balanced approach to departmental priorities and projects. The model would have provided a language and a simple guide for staff and leaders to explore different approaches. The model has much to commend it to those seeking to make organisational change – in a way it maps the benefits and risks landscapes over which leaders might chose to roam. The model appears particularly well suited to addressing the challenges of being heard (by framing opportunities in differing ways depending on audience interest and motivation), the challenge of lack of standardised metrics and overlapping frameworks (by providing a simple but powerful 'helicopter' view of the costs and benefits to society and the organisation) and the delivery of strategies/missions and negotiating complex cultures/structures with varying goals and beliefs (by abstracting from detailed projects/delivery to focus on the overall balance of activity and the relative contribution to respectively cost management, reputation, compliance, risk reduction or societal benefit).

⁷ Indeed the University was in receipt of the Green Gown Total Reporting award in 2019 for its integrated reporting efforts.

The fourth model, the Cambridge Sustainability Leadership Model (CSLM), includes a 3-fold set of factors to consider in delivering leadership for sustainability. The discussions that the CSLM provoked – on organisational culture and decision-making processes, and on individual leadership styles and traits – again reinforced lessons learned by the DSRS over the period 2013–19. The importance of the 'right' type of leadership for sustainability (values driven, systematic thinking, empathic and enquiring) very much mirror the style of leadership we seek to encourage. The importance of both the external context (for example seizing the opportunity that David Attenborough and Greta Thunberg created by raising awareness of climate change in 2019 to make more internal progress) combined with the vital need to understand the University itself and the sector, were key elements of the DSRS strategy.

The University of Edinburgh author first encountered the fifth model, the CBI-S model, in 2016 when taught by Sharp and again in 2017. As a major focus of the DSRS is about making successful change, whilst understanding the risks and opportunities, but located within a University specific context, the model has proved invaluable. Our experience to date confirms the hypothesis that the interaction of the two operating systems as conceptualised in the model (AOS and CCOS) is essential to securing effective, timeous change. Retrospective consideration of key projects from 2013–2018 provoked considerable learning and reflection within the DSRS. The simple concepts, appealing visuals and the immediate applicability of the model to personal projects (no need for complex data gathering or translation of high level concepts) makes the model instinctively attractive and intuitively appealing to those trying to make organisational wide change in an effective manner – and that appears to resonate more broadly with DSRS staff. The model appears most useful in negotiating the challenge of being heard, navigating complex institutional structures and cultures and assisting with developing a consistent narrative that endures through time.

More generally, the process of teaching at a conceptual level and the ability to generate a common language, set of visuals and parameters to frame discussions in the light of all the complexities and challenges discussed above, is one of the key benefits of the overall leadership programme. Gratifyingly, there is a clear and obvious relationship between the techniques proposed in the programme, and the actions and strategies progressed by the DSRS 2013–2020.

Lessons learned and conclusion

In this article, we took on the challenge of synthesising the key challenges affecting the delivery of sustainability in universities, then presented and critiqued the efficacy of five concepts or models taught in the EAUC Leadership Lab and whether they could address these challenges. We did this through the feedback from a subset of the Lab participants, as well as drawing on the knowledge and experience within the sector. To address challenges faced by sustainability leaders in the sector, the Lab aimed to highlight: (i) methods to measure sustainability activities in relation to bringing value to universities;

(ii) opportunities to understand and navigate organizational cultures and structures for successful leadership and decision-making; and (iii) theories and good practice adopted by successful sustainability leaders.

Reviewing the survey feedback and University of Edinburgh case study, it was clear that participants valued the concepts introduced to them as well as the opportunity to learn with and from their peers who could empathise with the challenges they face. The concepts introduced resonated with participants and provided catalysts for further reflection, and in some cases, action. In particular, the Edinburgh case study – an example where sustainability operates cross-institutionally and strategically – suggests the models meet the challenges, have value and provide theoretical underpinning to practice. However, there were challenges for many in terms of operationalising the concepts, often as participants did not have sufficient agency in their organisations to catalyse cultural and organisational changes.

From this we consider that the concepts in the Lab do assist in meeting the challenges presented. Where the context the sustainability leader is operating in gives agency to introduce such concepts, at a strategic level in their organisation there was greater mobilisation. The stage on the journey impacted perceptions of the value of the tools: whilst all valued the conceptual approach, those with less institutional support were likely to see more barriers and difficulties in applying the concepts

Notwithstanding this, the Lab concepts provided a hierarchy of some kind- with high level awareness of the models and a focus on those most familiar (SDGs) or easiest to apply without additional methodologies (5 Rs) for those at start of journey. For those further along, the need was more for operationalising

of SDGs and integrated reporting and recognition of the value of a model to assist with negotiating governance for decision making (CBI-S). Although the Lab provided a ‘smorgasbord’ of concepts for participants we suggest that, going forward the offer would benefit from some degree of segmentation of the offer, depending on participants’ stage of the journey, experiences against the eight challenges and need for awareness building and/or operationalisation of the concepts, through development of specialist training beyond the current programme.

Data availability

Underlying data

Figshare: JHF DG Building Your Influence paper, <https://doi.org/10.6084/m9.figshare.12758432.v3> (Haddock-Fraser & Gorman, 2020).

Reporting guidelines

Figshare: COREQ checklist for ‘Building your influence: the role of the smart sustainability leader’, <https://doi.org/10.6084/m9.figshare.12758432.v3> (Haddock-Fraser & Gorman, 2020)

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](#) (CC-BY 4.0).

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Erabaddage Ayoma Sumanasiri 

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Sustainability has been a key concern in many of the higher education institutes especially, universities. It is becoming a popular leadership concern of many universities irrespective of the economic, social, and environmental development of a country. This study continuously highlights the growing concern about sustainability in western universities, while discussing the changing role of students and their perceptions towards practicing sustainability. The paper further highlights the growing concern and willingness of undergraduates to learn more aspects under the concept of sustainability during their study period.

Haddock-Fraser and Gorman's approach in understanding the challenges faced by these sustainable leaders of Higher Education (HE) institutes is a successful attempt and they have offered suggestions to mitigate these identified challenges. The study also aims to examine how conceptual models relating to sustainability can be used in understanding leadership decision-making towards sustainability. To examine the challenges for sustainability leadership these two researchers have used one of the leading sustainability lead universities in UK as their case study. Further, the researchers used their experiences, practical application of sustainability at Edinburgh University UK, and the feedback received from the participants of EAUC for data analysis.

This study allows researchers and practitioners to understand how sustainability, theories, and conceptual models can be applied at HE institutes. Haddock-Fraser and Gorman have critically reviewed recent literature surrounding the concept of sustainability leadership or leadership for sustainability, especially in HE institutes. To evaluate the case study, the researchers have applied the most popularly used 5 models in practice (i.e. United Nation Sustainability Goals –SDGs; Integrated Thinking and Reporting; The 5 Rs of Responsibility; Leadership for Sustainability; and Core Business Integration for Sustainability (CBI-S) Model.).

To analyze how sustainability models are being implemented in practice at HE, the authors used feedback received by the participants from EAUC and their own experiences. The two researchers

were able to synthesize and critically evaluate the core principles and working models and principles of sustainability leadership and decision-making towards sustainability. Doing so the researchers have brought some interesting findings where future researchers in this field can further explore. Some suggestions for future researchers are to identify leadership challenges faced while leading for sustainability at universities in different contexts. This study explores and explains the ambiguities surrounding the successful implementation of sustainability at the university level. So addressing the research objectives, the two researchers have to synthesize the challenges for sustainable leadership at universities and confirm eight (8) common challenges. These challenges are explained with the support of relevant and recent literature. Using Edinburgh University in UK as the case study, the paper explains how this university has faced and overcome these challenges, and leadership practices while proving relevant theoretical explanations.

However, the researchers could further elaborate on these challenges applied in diverse contexts and the possible linkages between these challenges. Future researchers can bring these findings to address their sustainability issues in their own HE institutes such as universities. Future research opportunities are also possible to conduct using comparative analysis to examine sustainability leadership and the role of the leadership in implementing sustainability at universities in different social, economic, and environmental contexts. For this purpose, future researchers can follow the 5 models identified by Haddock-Fraser and Gorman. Future researchers and practitioners can identify and confirm challenges and opportunities associated with each of these 5 models. Doing so may enable the top management of these HEs to fill the gaps and further improve the use of sustainability models in practice.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Is the argument information presented in such a way that it can be understood by a non-academic audience?

Yes

Does the piece present solutions to actual real world challenges?

Yes

Is real-world evidence provided to support any conclusions made?

Yes

Could any solutions being offered be effectively implemented in practice?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Sustainability Leadership; Responsible Leadership, Sustainable Development

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 14 Oct 2021

Janet Haddock-Fraser, Manchester Metropolitan University, Manchester, United Kingdom

Very many thanks for the positive and constructive review of our paper. We really appreciate that you have found rigour and value in it and embrace your suggestion that our approach using theoretical models and sustainability frameworks could be applied in other contexts, whether regional/national or educational. We hope to see this undertaken by researchers in the future.

Competing Interests: No competing interests

Reviewer Report 27 October 2020

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James W. S. Longhurst 

University of the West of England (UWE), Bristol, United Kingdom

Haddock-Fraser and Gorman bring to this review significant theoretical and professional insights about the practice of sustainability leadership in higher education. Drawing upon a wide range of literature, including Haddock-Fraser's well received book on leadership and Gorman's role in directing Edinburgh University's leading role in the HE sustainability sector, this paper explores the challenges facing sustainability leaders. Having done so the authors provide a range of practical and theoretically grounded suggestions for addressing these challenges culminating in a very useful case study.

The idea of 'volatile, uncertain, complex and ambiguous' (VUCA) challenges is introduced as a means to recognise and appreciate 'the uncertainty and complexity sustainability leaders in higher education are facing, then finding structured means and models to help navigate' this set of circumstance. I would have liked to see a fuller discussion in the introduction about this set of ideas and the way in which it intersects with the sustainability practices of HE. In this way a firmer grounding for the discussion and practical challenge of sustainability in HE might be foregrounded. Whilst VUCA is discussed in relation to the EAUC Leadership training programme it is not clear how the ideas of VUCA are embedded and presented in the programme. Further discussion and exemplification may be warranted.

The literature review and context for the paper, with the exception of the above, is comprehensive and well-argued throughout. Citations are relevant and underpin the arguments presented. Appropriate reference is made to the first author's text on sustainability leadership which helps clarify important ideas and issues.

The role of VUCA is returned to in the section on the complex challenge for sustainability leaders. Here a wide range of sources are marshalled to explore and explain the nature of the complex challenges and to develop a pathway to a better understanding of how to overcome the challenges presented by VUCA. Eight identified challenges are presented and each is well described and suitably discrete, albeit with some interconnectivity, so that the challenges identified are real rather than artificial constructs for the purpose of a paper. The discussion of each of the eight challenges is variable in length and several of them, e.g. 'lack of systematic, published evidence in key areas' or 'the challenge of narrative, consistency and endurance' could be expanded. The eight challenges are then explored through the lens provided by five different models. The experience of the 2019 and 2020 participants on the EAUC's Leadership training programme provide useful insights on the challenges and opportunities provided by these models but these are based only on 10 responses so care should be taken in generalising too far about their utility.

The paper concludes with a case study of Edinburgh University's sustainability approach. Without doubt Edinburgh is one of the leading university in engaging with the challenge of sustainability and of course, has won several UK and Ireland Green Gown Awards for their work. The case study provides practical examples of initiatives and activities which address the eight challenges identified in the paper. Each response to a challenge demonstrates a strong theoretical understanding interpreted through a practical understanding and a localising to the specific context of the university.

I enjoyed reading this paper and it served the important task of making me think hard about the theoretical underpinnings of sustainability leadership and my own practices in such leadership. In summary, this is a well written and argued paper addressing the complex challenge of leadership and sustainability. It helps clarify issues and ambiguities and provides a framework in which sustainability leadership can be explored, tested and enhanced.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Is the argument information presented in such a way that it can be understood by a non-academic audience?

Yes

Does the piece present solutions to actual real world challenges?

Yes

Is real-world evidence provided to support any conclusions made?

Yes

Could any solutions being offered be effectively implemented in practice?

Yes

Competing Interests: I know both authors and have served with the lead author on the Board of Directors and Trustees of the EAUC. This relationship does not preclude me from reviewing this work nor has it objectively influenced my critique of their work.

Reviewer Expertise: Sustainability, ESD, environmental science, air quality management, carbon management

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.
