Exploring Institutional and Organizational Complexity: A Study of Sustainability in English Public Universities' Campus Operations

Hongyi Zhang

Professional Doctorate of Business Administration

March 2022

Exploring Institutional and Organizational Complexity: A Study of Sustainability in English Public Universities' Campus Operations

Hongyi Zhang

A thesis submitted in partial fulfilment of the requirements of
the University of Northumbria at Newcastle
for the degree of
Professional Doctorate of Business Administration

Research undertaken in Newcastle Business School

March 2022

Abstract

The aim of this study is to explore the rationales for English public universities to engage in campus operational sustainability (OS) activities and the barriers to progressing OS, mainly based on the perceptions and experiences of university personnel directly involved in these activities at a managerial level. Some scholars criticize that the previous application of organizational legitimacy theory in the field of sustainability research is more concerned with society as a whole and does not examine particular stakeholder groups. There is also a lack of research empirically investigating the reasons for OS engagement in higher education institutions through neo-institutional perspectives. More in-depth engagement based empirical research on various barriers to progressing OS is needed.

This study adopts neo-institutional theory and organizational legitimacy theory to help explain the rationales for English public universities' OS engagement. The researcher draws on insights from sustainability literature, so as to better understand a range of barriers to OS progress in universities.

The philosophical stances of this study are based on constructionism and interpretivism. The research adopted a qualitative research approach and used semi-structured interview and document analysis to gather data. The semi-structured interview was the main data collection method and document analysis was the additional, supporting method to supplement the interviews. A purposive sampling strategy was employed to select participants. The researcher conducted in-depth interviews with one experienced manager directly involved in OS from each of 20 English public universities with different organizational characteristics. Additionally, a large number of relevant external and internal documents were gathered and analyzed. Template analysis was used as the main method to analyse data. Prior to the main study, a pilot study of three universities was undertaken. Moreover, a number of approaches were applied to ensure research ethics and research quality.

This research identifies a range of coercive, normative and mimetic institutional mechanisms, influencing the universities' rationales for OS engagement. In this context, the government, students and media are perceived as influential sources of legitimacy. The analysis also reveals conflicts between managers' attempts to pursue moral legitimacy for substantive OS changes and universities' pragmatic self-serving benefits. When facing such conflicts, universities may sometimes engage in symbolic OS activities for maintaining legitimacy in a superficial way, with limited substantive actions. In addition, the researcher divides the barriers to OS progress into organizational-related and social institutional-related barriers and proposes a number of approaches which could address the barriers.

Table of Contents......iii

List of Tables......x

Abbreviations......xi

Acknowledgements......xii

Declaration......xiii

Chapter One Introduction......1

1.1 Introduction......1

1.2 Background of this research......1

1.3 Research questions and objectives......7

1.4 Brief overview of the theoretical framework and research methods......8

1.5 Summary of contributions......9

1.6 Thesis structure......13

1.7 Chapter summary......14

Chapter Two Literature Review......15

2.1 Introduction......15

2.2 Literature on sustainability and (campus) operational sustainability research......15

2.2.1 Concepts of sustainability......15

2.2.2 Development of sustainability research......17

2.2.3 Research on (campus) operational sustainability in universities......19

2.3 Organizational rationales for OS engagement......23

2.3.1 Overview of sustainability literature regarding rationales for engaging in OS and business case motivations......23

2.3.2 Neo-institutional theory......26

2.3.2.1 Introduction of neo-institutional theory......27

2.3.2.2 The neo-institutional theoretical framework adopted in this research: the influence of institutional mechanisms......31

2.3.2.2.1 Coercive institutional mechanisms......32

2.3.2.2.2 Normative institutional mechanisms...................................... 33
2.3.2.2.3 Mimetic institutional mechanisms... 35
2.3.3 Organizational legitimacy theory..36
2.3.3.1 Introduction of legitimacy theory...37
2.3.3.2 Organizational legitimacy theoretical lenses adopted in this study... 39
2.3.3.2.1 Sources of legitimacy...39
2.3.3.2.2 Conflicts in the process of maintaining legitimacy and substantive-symbolic legitimation..41
2.3.4 Joint consideration of these two complementary theories...........................48
2.4 Barriers to operational sustainability progress..49
2.4.1 Literature concerning main organizational-related barriers........................49
2.4.2 Literature concerning main social institutional-related barriers..................56
2.5 The research gaps identified in the existing literature 60
2.6. Chapter summary...62

Chapter Three Research Methodology and Methods..64
3.1 Introduction...64
3.2 The concepts of research methodology and research method..............................64
3.3 Ontological and epistemological positions in this research..................................64
3.3.1 Ontological considerations..65
3.3.2 Epistemological considerations...66
3.4 Research design……………………………………………………………….68
3.4.1 Quantitative research, qualitative research and the approach adopted in this study..68
3.4.2 Overview of data collection methods..70
3.4.3 Sample selection……………………………………………...………...…71
3.5 Data collection………………………………………………………………..81
3.5.1 Semi-structured, open-ended interview……………………………..…..81
3.5.2 Documentary analysis…………………………………………..………88
3.5.3 Pilot study and main study……………………………………..…………91

3.6 Data analysis……………………………………………………………….…93
3.6.1 Key concepts of template analysis ……………………………….…93
3.6.2 Process of data analysis in this research……………………………..94
3.6.3 Developing templates………………………………..………………96
3.6.4 Interpretation of data and presentation of findings……………………...100
3.7 Research Ethics …………………………………………………………..105
3.8 Research quality……………........…………………………………....…106
3.9 The researcher's reflexivity..108
3.10 Chapter summary..112

Chapter Four Data analysis and research findings...114
4.1 Introduction...114
4.2 Research context..114
4.3 Analysis and findings on rationales for OS engagement in English public universities...124
4.3.1 Rationales: the perspective of institutional influences..............................124
4.3.1.1 Perceived coercive influences..125
4.3.1.1.1 Coercive influences from central and local government through laws, regulations, policies, targets and funding......................126
4.3.1.1.2 Coercive influence from university sector regulator through target setting and policies, combined with financial resources............128
4.3.1.2 Perceived normative influences..130
4.3.1.2.1 Some but limited normative influence from student-led activist groups and the sustainability league tables...132
4.3.1.2.2 Some but limited normative influence from students through students' unions..134
4.3.1.2.3 Students and student-led organizations use media to criticize the current 'business as usual' OS practices, reflecting the normative influence..138

4.3.1.2.4 Sector sustainability professional associations' efforts have some but limited elements of normative influence..............................141
4.3.1.3 Perceived mimetic influence mainly from peer universities' OS practice and performance..145
4.3.2 Rationales: legitimacy seeking and organizational self-interest................151
4.3.2.1 Many rationales associated with organizational self-interest...........153
4.3.2.2 Maintaining legitimacy with different sources of legitimacy mainly for pursuing organizational self-interest...154
4.3.2.2.1 Maintaining legitimacy with the government and benefiting organizational self-interest..155
4.3.2.2.2 Maintaining legitimacy with students and benefiting organizational self-interest..159
4.3.2.2.3 Maintaining legitimacy with the media and the general public and benefiting organizational self-interest...163
4.3.2.3 The interplay between seeking pragmatic organizational self-interest and moral legitimacy for substantive changes towards sustainability..........166
4.3.2.3.1 Limited substantive activities especially when sustainability demands are consistent with organizational self-interest.....................167
4.3.2.3.2 Compromises (symbolic legitimation) when confronting conflicts between pragmatic organizational interests and moral legitimacy for sustainability..171
4.3.2.3.2.1 Compromises (symbolic engagement) when organizational expansion conflicts with pursuing moral legitimacy for sustainability..172
4.3.2.3.2.2 Managing organizational reputation through symbolic OS engagement conflicts with moral legitimacy for sustainability...179
4.3.2.3.2.3 Compromises when making investments and saving costs conflict with moral legitimacy for sustainability..................183

4.3.2.3.2.4 Further analysis of symbolic legitimacy management and lack of substantive changes towards sustainability........................185
4.4 Analysis and findings on barriers to universities' OS progress............................189
4.4.1 Organizational-related barriers...190
4.4.1.1 Organizational management/structure-related barriers....................190
4.4.1.1.1 Inconsistency between OS and organizational short-term economic interests..191
4.4.1.1.2 OS is not a strategic priority of a university...........................193
4.4.1.1.3 Lack of university senior management commitment to OS...194
4.4.1.2 Organizational resource/capacity-related barriers............................196
4.4.1.2.1 Insufficient financial resources for OS within universities....196
4.4.1.2.2 Lack of dedicated OS human resources................................197
4.4.1.2.3 Other organizational members' lack of time to participate....199
4.4.1.3 Cognition/organizational culture-related barriers............................200
4.4.1.3.1 Lack of awareness, interest, and knowledge about OS among different organizational members...200
4.4.1.3.2 Silo mentality...203
4.4.2 Social institutional-related barriers...206
4.4.2.1 Insufficient or inadequate legal and governmental coercion............206
4.4.2.1.1 Weakening coercive pressure and short-termism of central and local government..207
4.4.2.1.2 Decline of coercive influence from the sector regulator........211
4.4.2.2 Varied and limited social (non-government) pressures....................214
4.4.2.2.1 Insufficient pressure from students.......................................214
4.4.2.2.2 Mixed views on the influence of the People & Planet university league..216
4.4.2.2.3 Limited influence of professional associations......................218
4.4.2.3 Negative impacts of COVID-19 on universities' OS.......................220
4.5 Chapter summary..224

Chapter Five Discussion and Conclusions...225
5.1 Introduction...225
5.2 Discussion..225
5.2.1 Rationales for universities' OS engagement..227
5.2.1.1 Rationales: the perspective of institutional influences....................227
5.2.1.2 Rationales: legitimacy seeking and organizational self-interest......231
5.2.2 Barriers to universities' OS progress...237
5.2.2.1 Organizational-related barriers...238
5.2.2.2 Social institutional-related barriers...241
5.2.3 Linking the issues of 'rationales' with 'barriers'......................................244
5.3 Conclusions on research aim, objectives and questions.....................................249
5.4 Research contributions...255
5.4.1 Theoretical contributions..256
5.4.2 Contributions to and recommendations for practice.................................259
5.4.2.1 The general suggestions for universities and various stakeholders involved..260
5.4.2.1.1 Emphasizing long-term wider social and environmental impacts and making OS a strategic priority 260
5.4.2.1.2 Strengthening support from senior management...................260
5.4.2.1.3 Ensuring sufficient dedicated organizational financial and human resources for OS...261
5.4.2.1.4 Tying OS to all organizational members' work responsibilities and performance assessments..261
5.4.2.1.5 Increasing adequate legal and governmental pressure on universities...262
5.4.2.1.6 Strengthening collaboration among external stakeholders.....263
5.4.2.1.7 Using COVID-19 positive impacts as opportunities for making substantive sustainability changes...263
5.4.2.2 Practical implications for managers in higher education institutions...267

5.4.2.2.1 Broadening and deepening stakeholder engagement and trans-disciplinary collaboration....267
5.4.2.2.2 Reinforcing 'whole institution' systematic awareness-raising and knowledge training at a deep level....268
5.4.2.2.3 Implementing effective monitoring and evaluation with regard to OS....269
5.4.2.2.4 Assisting senior executives in formulating and implementing OS management accountability mechanisms....270
5.4.2.2.5 Supporting senior executives to ensure sufficient dedicated organizational financial and human resources for OS....270
5.4.2.2.6 Strengthening university-external stakeholder collaboration.271
5.4.2.2.7 Emphasizing social aspects of OS and making further improvements in environmental OS....271
5.5 Research limitations....276
5.6 Suggestions for future research....276
Appendices....279
Appendix 1: Research Participant Invitation and Information Sheet....279
Appendix 2: Research Participant Informed Consent Form....280
Appendix 3: Interview Guide....282
References....284

List of Tables

Table 2.1 A list of leading journals publishing sustainability-related articles.............18
Table 2.2 The summary of relevant literature regarding the organizational-related barriers to OS progress...54
Table 2.3 The summary of relevant literature regarding the social, institutional-related barriers to OS progress...59
Table 3.1 Details of the interviewees...73
Table 3.2 Contextual information of sample English universities (interviewed).........74
Table 3.3 Documents collected and analyzed in this study...76
Table 3.4 Research design in this study...80
Table 3.5. Final template for this research...101
Table 4.1 The OS-related main events in the English university sector....................117
Table 4.2 Main aspects of OS activities in English public universities.....................119
Table 4.3 The template regarding the rationales for English public universities to undertake OS activities - social institutional influences...150
Table 4.4 The template regarding the rationales for English public universities to undertake OS activities: legitimacy seeking and organizational self-interest............188
Table 4.5 Template regarding the organizational-related barriers to English public universities' OS progress..206
Table 4.6 Template regarding the social, institutional barriers to English public universities' OS progress..223
Table 5.1 Framework of the study..225
Table 5.2 Summary of the rationales for universities' OS engagement.....................251
Table 5.3 Summary of barriers to OS progress..254
Table 5.4 Summary of the suggested general approaches to OS progress................265
Table 5.5 Summary of the suggested practical strategies to improve OS managerial practices...273

Abbreviations

DBA	Doctor of Business Administration
PhD	Doctor of Philosophy
OS	(campus) operational sustainability
NGOs	Non-governmental organizations
GRI	Global Reporting Initiative
CCC	Committee on Climate Change
CRCEES	The UK Carbon Reduction Commitment Energy Efficiency Scheme
HEFCE	Higher Education Funding Council England
OfS	Office for Students
EAUC	Environmental Association for Universities and Colleges
AUDE	Association of University Directors of Estates
NUS	National Union of Students
HESA	Higher Education Statistical Agency
COVID-19	Coronavirus-19

Acknowledgements

First of all, I am deeply grateful to my Principal Supervisor, Dr Alex Hope, who has guided and encouraged me throughout the challenging but exciting DBA research journey. I would never have been able to finish this without his constant support, detailed feedback and invaluable insights. I would also like to express my heartfelt gratitude to my other supervisors, Dr Chrysostomos Apostolidis and Miss Katie Ridley, for commenting on some key aspects of this study.

I would like to thank Professor Ron Beadle, Professor Philip Shrives, Dr Karim Sorour, Dr Helen Manns and many other academics and professional service staff at Newcastle Business School for their constructive criticism and helpful suggestions in the course of my study. In addition, I am grateful to all the research participants for giving their precious time and sharing their views and experiences.

Finally, I would like to thank my family for their love and understanding. My wife, Yu-Hsia Lin (Emma), has been very supportive and patient during this long process.

Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others. Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the University Ethics Committee in May, 2019. I declare that the word count of this thesis is 65,820 words. According to the School Assessment Brief, if the assessed work is within +10% of the stated word limit no penalty will apply.

Name: Hongyi Zhang

Signature: Hongyi Zhang

Date: the 14th of March, 2022

Chapter One: Introduction

1.1 Introduction

Sustainability issues, such as carbon, energy, sustainable procurement and ethical investment, have gained importance in both management theory and practice. The challenge of sustainability is highly complex and organizations must address such complexity. Specifically, Alshuwaikhat and Abubakar (2008) stress that, because of universities' large size, diverse population and broad range of activities, they can be considered 'small cities'. And their significant, sometimes negative, impact on environment and society cannot be ignored.

This introductory chapter lays a foundation for the thesis. It begins with a clarification of key concepts which are essential to the research issue and aim. It then presents an overview of relevant aspects of the existing literature, together with an explanation of the importance and rationale of the study. It also discusses the focus and scope of this research. Subsequently, the research questions and objectives are outlined. This is followed by a brief introduction of the theoretical perspectives and research methods adopted to address the research questions. The next section identifies the under-researched areas in previous studies and highlights the theoretical and practical contributions which this study is intended to make. Finally, the thesis structure is provided to guide the readers.

1.2 Background of this research

Applied DBA studies differ from PhD research, which emphasizes the original contributions to theoretical knowledge. The practice-based DBA research intends to make an original contribution to the field of professional practice (Northumbria University, 2021). **The aim of this DBA study is to explore the rationales for English public universities to engage in sustainability activities in campus**

operations and the barriers to progressing campus operational sustainability, mainly based on the perceptions and experiences of the university personnel directly involved in these activities at a managerial level. In order to understand the research issues, the relevant, essential concepts like sustainability and (campus) operational sustainability (OS) need to be clarified. Sustainability can be defined as the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development of the United Nations, also known as the Bruntland Report, 1987, p. 8)[1]. However, some researchers argue that sufficient guidance is not provided by this under-specified definition (Bebbington and Gray, 2001). The notion of sustainability comprises three aspects: environmental, social and economic sustainability.

In the context of organizational operations, "sustainability is the capability of an organization to transparently manage its responsibilities for environmental stewardship, social well being, and economic prosperity over the long term while being held accountable to its stakeholders" (Pojasek, 2012, p. 94). From the organizational perspective, sustainability can be defined as an organization's ability to simultaneously consider the environmental, social and economic impact of its operations and take actions accordingly. OS concerns organizational policies, procedures, behaviors and cultures, etc. (Henríquez-Machado et al., 2021; Nawaz and Koç, 2019; Kleindorfer et al., 2009).

More specifically, according to Washington-Ottombre et al. (2018, p. 565), campus operational sustainability refers to "higher education institutions' endeavors to manage environmental issues and promote social change". Campus operational sustainability is concerned with developing "a healthy campus environment, with a prosperous economy through energy and resource conservation, waste reduction and

[1] Noticeably, while some of the pivotal studies cited in this research were published some time ago, they are seminal works that offer great insights and are referenced frequently by other scholars.

an efficient environmental management, and promotes equity and social justice in its affairs and exports these values at community, national and global levels" (Alshuwaikhat and Abubakar, 2008, p. 1778). Similarly, Velazquez et al. (2006) point out that a university's campus operational sustainability involves promoting the reduction of negative social, environmental and economic impacts caused by the use of its resources to undertake its activities in and around the campus.

In a broad sense, **(campus) operational sustainability (hereafter OS)** activities are universities' decisions and actions regarding carbon, energy, waste and recycling, water, travel and transport, construction and refurbishment, biodiversity, sustainable procurement, fair trade, ethical investment and banking, and equality and diversity, etc. This research focuses on these OS activities, which are not confined within the 'campus walls'. Many of these issues/elements are inter-connected to one another.

Carbon dioxide and other greenhouse gas emissions from humans are major contributors to climate change (The Intergovernmental Panel on Climate Change, 2013). The carbon emissions should include scope 1 (a university makes directly), scope 2 (a university makes indirectly, e.g. it purchases the energy, is being generated on its behalf, to heat and cool buildings) and scope 3 (a university is indirectly responsible for, e.g. staff and student travel and procurement throughout its supply chain). Energy consumption is the most relevant area of carbon emissions. Nearly half of a university's direct and related carbon emissions are also attributed to travel, waste, food and procurement operations (People & Planet, 2019d). Universities need to reduce energy waste and use more renewable energy. In addition, universities should work hard in terms of building design and upgrades for improving energy efficiency, combined heat and power systems, energy-efficient vehicles and significant changes in human behavior.

Wastes and recycling deals with waste recycled, composted or anaerobically digested. Water use reduction relates to water consumption and rainwater used. To reduce traffic congestion and lessen the environmental impact of transportation, a university must promote sustainable modes of transportation and urge staff and students to decrease the number of car journeys onto campus. International travel in relation to students' trips, academics' research and teaching and other university activities is also important in this respect. In sustainable construction and refurbishment, waste is reduced both on and off site; reused or recycled materials are used; local operators are selected to implement sustainable construction solutions. In addition to improving well being, biodiversity offers critical ecosystem services for mitigating and adapting to climate change. Universities should protect existing biodiversity on their campuses while enhancing opportunities for nature's variety of organic life.

Sustainable procurement is “the act of adopting social, economic and environmental factors alongside the typical price and quality considerations into the organisations' handling of procurement processes and procedures” (Chartered Institute of Procurement and Supply, 2021). Typical sustainable procurement practices include conformity with environmental/social regulations and targets, comprehensive supplier vetting for fair labour practices and the removal of hazardous materials and waste throughout the supply chain. The organization should also actively and consistently engage in fairtrade. In terms of ethical investments and banking, universities should take the position that investing in fossil fuel extraction companies is no longer ethically or ecologically responsible. It is recommended that universities reinvest in renewable energy firms or funds. A university should be committed to doing business only with banks that have an active policy of excluding finance for fossil fuel corporations and projects, rather than doing business with fossil fuel funding financial institutions. A university should foster an inclusive environment that encourages equality and diversity. The organization should cultivate a diverse community where all members can achieve their full potential and thrive, regardless of their background. It should offer living wages to all its employees on campus.

“Campus sustainability efforts aim to foster the rethinking of our society and the realization of social change. More specifically, they seek to cultivate more sustainable and just interactions between people and nature, amongst diverse groups of people, and between generations.” (Washington-Ottombre et al., 2018, p. 565). In this light, studies (e.g. Godemann et al., 2014; Alshuwaikhat and Abubakar, 2008) suggest that sustainable campus operations should be environmentally friendly and healthy, socially fair and just and economically sustainable (maintaining a balance between economic returns and caring for the needs of diverse stakeholders, future generations and the environment). Such holistic, inclusive and broad-based understandings of OS-related organizational activities have been applied by many scholars in sustainability studies on higher education institutions (e.g. Washington-Ottombre et al., 2018; Lozano, 2006; Alshuwaikhat and Abubakar, 2008). The definition of sustainability and the concept of OS are applied throughout this research. This research focuses on the organizational rationales for and barriers to OS engagement. It is not intended to extensively evaluate the OS performance of English public universities. The purpose of this brief overview of different aspects of OS included in this study is to help the readers better understand the research context and research questions being examined.

It has been widely recognized that the present main university activities encompass education (teaching), research, public/community outreach and campus operations (Hoover and Harder, 2015; Waas et al., 2012; Tan et al., 2014; Lozano, 2006; Velazquez et al., 2005; Cortese, 2003). While sustainability teaching, research and public outreach are also crucial and related, they are not included in this study, because the in-depth examination of each of these broad, multifaceted and complex topics may sometimes require different approaches, perspectives and participants. It is worth noting that a number of sustainability studies have also only focused on campus OS in universities (e.g. Godemann et al. 2014; Elliott and Wright, 2013; Altan, 2010).

O'Dwyer (2004) points out that any single research project has to focus on a relatively constrained area with a view to developing sufficient theoretical and practical depth while maintaining balance with the breadth. While there are a few relatively small private higher education institutions with degree-granting power in England, the vast majority of English universities are publicly funded. Considering the data access issues and the significance of such public organizations in the sector, this research emphasizes English public universities. Furthermore, given the practical constraints, in order to provide a clear focus, this study concentrates on exploring the above-mentioned research issues mainly through the perceptions and experiences of internal organizational personnel who are directly involved in the OS of their universities at a managerial level (see 3.4.3 'Sample selection' for more details).

Historically, universities play vital roles in social development by nurturing leaders in public and private sectors, educating responsible members of societies and serving the interests of the general public (Cortese, 2003). However, universities have long been traditional organizations (Lozano, 2006; Elton, 2003), "contributing to and even accelerating unsustainable ways of development (Sterling & Scott, 2008; Wals, 2008), and by resisting changes" (Lozano et al., 2013, p. 3). Although some universities have undertaken limited OS initiatives, many scholars criticize that sustainability is not fully integrated into their organizational operations; and OS activities are only 'add-ons' to the existing organizational systems (Leal Filho et al., 2019; Aleixo et al., 2018; Avila et al. 2017; Ferrer-Balas et al., 2010). Hence, it is imperative to critically examine and positively change the universities' current engagement in this respect.

Higher education institutions are big and complex organizations (Denman, 2005). Within these institutions, a large number of units are inter-related (Rogers, 1995), and they have a variety of structures, principles, values, norms, sub-systems and members that are affecting and being affected by each other (Kotter, 1996). Universities need to respond to multiple and sometimes competing demands stemming from increasingly complex core missions and goals (Shriberg, 2002). Fundamentally, while private companies may emphasize the short-term interests of shareholders and profitability, public universities have to balance financial performance with the long-term social values underpinning their goals and operations (e.g. serving the public interest) and the not-for-profit nature of public organizations (Ball et al., 2014). Moreover, higher education institutions cannot be isolated from the larger environmental and social systems within which they exist and operate (Stacey, 1993). It is of crucial importance to engage diverse constituents in an interdisciplinary and holistic way, in order for higher education institutions to take the lead on sustainability (Godemann et al., 2014).

In the past decade, the strategic context in relation to OS in English universities has changed significantly. For instance, the UK government enacted the Climate Change Act in 2008, the former university regulator Higher Education Funding Council for England (HEFCE) established sector carbon reduction targets and strategies in 2010, and student-led activist group People & Planet initiated a UK university sustainability league table in 2007. While OS is a challenging and evolving area for higher education institutions, the majority of public universities in England have undertaken some relevant activities, due to various reasons (Shiel and Williams, 2015). Adding to this complexity, the recent COVID-19 pandemic has also profoundly impacted universities and their OS.

1.3 Research questions and objectives

Based on the research aim, the following research questions are posed to direct the study:

- **Research question one**: Why do public universities in England engage in sustainability activities in university campus operations?

- **Research question two**: What are the barriers encountered by public universities in England while engaging in sustainability activities in campus operations and how do these barriers affect such activities?

In addressing the research questions, the research objectives are:

(1) To understand the rationales for public universities in England to engage in (campus) operational sustainability-related activities as perceived by managers directly involved in such activities.

(2) To explore barriers to (campus) operational sustainability progress in English public universities.

(3) To make theoretical and practical contributions and offer suggestions that could help universities, sustainability-related professionals and constituents to advance (campus) operational sustainability.

1.4 Brief overview of the theoretical framework and research methods

A number of theoretical perspectives have been adopted in sustainability-related literature. In terms of research question one, this study adopts neo-institutional theory and organizational legitimacy theory to help explain the rationales for universities' OS engagement. The use of these two complementary theories may provide a finer-grained picture of why English public universities undertake OS-related activities (see Borgstedt et al. 2019; Islam and Deegan, 2008; Suchman, 1995). With regard to research question two, the researcher draws on insights from the sustainability literature in order to better understand a range of barriers to OS progress in universities. It is noteworthy that these theoretical perspectives are not pre-selected; instead, they emerged out of the data collection and analysis.

The philosophical stances of this study are based on constructionism and interpretivism (Bryman, 2016). The research adopted a qualitative research approach and used a combination of semi-structured interview and document analysis to gather data. A purposive sampling strategy was employed to select participants. The researcher conducted in-depth interviews with one experienced manager directly involved in OS from each of 20 English public universities with different organizational characteristics. More than 800 relevant publicly available external and organizational internal documents were also gathered and analyzed. Template analysis was used as the main method to analyse data, supported by NVivo. Prior to the main study, a pilot study of three universities was undertaken. Moreover, a number of methods were applied to ensure research ethics and research quality.

1.5 Summary of contributions

The researcher identifies several gaps in the prior literature. By addressing these gaps, this study is intended to make three theoretical contributions. Firstly, to explain the rationales for universities' OS engagement, this DBA study adopts both organizational legitimacy theory and neo-institutional theory as the theoretical framework. Within the field of sustainability research, although organizational legitimacy theory has been widely used in related literature, it is not without its critics. Deegan (2014, p. 265) criticizes that the previous use of legitimacy theory "tends to focus on society at large" and does not examine "particular groups within society". He points out "proponents of legitimacy theory often talk about 'society' and compliance with the expectations of society […] this provides poor resolution given that the society is clearly made up of various groups having unequal power or ability to influence the activities of other groups". In a similar vein, Maughan and O'Dwyer (2010, p. 4) stress that many sustainability-related studies, utilizing legitimacy theory, "portray this external audience as a homogenous group (O'Dwyer, 2002). While such a broad theoretical perspective can provide an innovative perspective in an embryonic field of study it can become progressively less insightful as the field develops (Unerman, 2008)".

This study conducts an in-depth analysis on different stakeholders who confer legitimacy to a university with regard to its OS engagement (e.g., the government, students and the students-led activist group and the media) and the influences of these stakeholders. This research also addresses this issue by examining why and how universities respond to the demands of these different stakeholders and maintain legitimacy from them. Universities manage legitimacy from these stakeholders mainly for protecting/furthering universities' pragmatic organizational self-interest.

Moreover, Crossley et al. (2021) point out that there are very limited empirical studies relating to the use of substantive and symbolic legitimation approaches (Ashforth and Gibbs, 1990) within operational sustainability research generally, and they are almost non-existent with respect to higher education institutions' OS. This research reveals that sample universities adopt both substantive and symbolic strategies, but their approaches are more inclined towards symbolic legitimation. In the process of OS engagement, universities experience conflicts between pursuing moral legitimacy for the good of society and environment and seeking universities' own instrumental benefits. Universities in many cases respond to the sustainability demands of stakeholders in a symbolic, superficial way. There are limited and insufficient substantive OS engagements for attaining moral legitimacy. Short-term symbolic legitimation activities may undermine the long-term development of moral legitimacy for sustainability. This study suggests that universities' preference on symbolic legitimacy management strategies (Ashforth and Gibbs, 1990) offers some potential explanations for the lack of full integration of sustainability into campus operations as proposed in prior studies (e.g., Leal Filho et al., 2019; Aleixo et al., 2018).

Secondly, deliberate legitimacy-seeking motives cannot completely explain the complex rationales for OS engagement. Neo-institutional theory "expands the focus from the rational, resource-dependence perception common in sustainability-related literature... to a more subtle form, which is influenced by a mixture of factors, more complex than deliberate managerial decision-making" (Bebbington et al., 2009, p.

592). The neo-institutional theory provides a differing, but complementary, lens to understand how various social factors influence the rationales for sustainability commitment (Higgins and Larrinaga, 2014; Borgstedt et al., 2019).

While a growing body of social and environmental studies in the management domain relies on neo-institutional theory, there is a lack of research empirically investigating the reasons for OS engagement in public higher education institutions through neo-institutional perspectives. This study adds to the body of knowledge concerning sustainability by exploring rationales for OS activities at public universities in England from a neo-institutional perspective. In addition to examining the questions of who the influential institutional actors are, and what types of institutional mechanisms there are, this research also enriches our understanding of why they are influential, how they exert influences (e.g. through what means or channels), and the decline (change) and limitations of some of the influences. Moreover, organizational legitimacy theory and neo-institutional theory complement each other in the examination of the complex rationales for organizational OS engagement from differing perspectives and with different levels of resolution (see Islam and Deegan, 2008; Suchman, 1995; Borgstedt et al. 2019), contributing to a deeper and fuller understanding of the research issues.

Thirdly, this research also seeks to make a contribution to the literature regarding the barriers to progressing OS (or deeper and broader OS engagement). While some research has been carried out on identifying barriers in theory, scholars have called for further empirical investigations into these issues in the university setting to examine the applicability and relevance of barrier-related concepts in practice (Blanco-Portela et al., 2017; Ceulemans et al., 2014). More in-depth studies are needed to emphasize the critical account of such impediments (Shiel and Williams, 2015).

On the basis of the themes emerging from the data, the researcher broadly divides the barriers to OS progress into two main categories: organizational-related barriers and social institutional-related barriers. This study empirically explores such a wide range of impeding factors from a reflective and critical perspective and develops an inclusive conceptual framework analyzing the barriers to universities' OS advancement. The researcher also argues that some of the barriers identified by the previous sustainability literature (e.g. a lack of sustainability policies, committees, working groups and offices) may not be appropriate for OS progress in the context of English public universities. This finding implies that sufficient attention has to be paid from a contextual perspective in sustainability theory development. In addition, the researcher adds new factors such as the impact of the COVID 19 pandemic in the discussion of the barriers. These emerging factors have not been deeply addressed by the existing sustainability literature in the context of higher educational institutions.

In terms of practical contributions, it is essential for all internal and external stakeholders, especially university leaders, managers and practitioners with sustainability-related responsibilities, as well as government authorities, to fully understand the complex organizational rationales for OS engagement. The findings of this study could be helpful in steering the OS of organizations (especially higher education institutions) to the appropriate strategic direction and make systemic sustainability transformation in the long term. It is equally important to note that understanding various barriers to advancing OS allows universities and their constituents to anticipate such obstacles. Furthermore, this research proposes a number of approaches which could address the barriers and potentially make substantive sustainability changes.

The main motivations for choosing this topic are the significance of OS and the under-research areas, as identified above. The researcher's personal and professional interest (e.g. personal concerns about the seriousness of social and environmental problems and prior sustainability-related consulting and research experience) also encouraged him to undertake this study.

1.6 Thesis structure

This thesis is organized into five chapters. **Chapter One** provides the introduction to the research, whilst **Chapter Two** presents a comprehensive review of the extant literature regarding sustainability and OS in the context of universities. Key areas for consideration consist of rationales for and barriers to the related sustainability engagement. A critical discussion of the main theories adopted in the field is provided. The chapter then concentrates on the relevant aspects of legitimacy theory and neo-institutional theory which are the foundations for the theoretical framework adopted in addressing the issue of 'rationales' (research question one). The chapter also synthesizes the insights from the sustainability literature relating to the barriers to OS as the broad conceptual framework for answering research question two.

Chapter Three details the research methodology and methods. It explains the ontological and epistemological positions in undertaking this study prior to the discussion of the rationale for the use of qualitative research and the overall research design. Subsequently, this chapter explains the data collection methods adopted (i.e. a combination of semi-structured interviews and document analysis), followed by the purposive sampling strategy and the criteria for selecting research participants. The data collection process (pilot study and main study) and the multiple data sources are also discussed. After that, this chapter details the use of template analysis, with the support of NVivo software, as the method of data analysis. It then moves to consider various research ethical issues and procedures. Finally, the criteria to assess the quality of this study and approaches to ensuring research quality are presented.

Chapter Four presents data analysis and findings. Firstly, it provides the context for conducting this qualitative study. As the study findings unfold, the researcher compares the results with the existing literature and theories. This chapter presents a detailed account of the research results and uses a large number of pertinent quotes as evidence to analyze and support each theme and sub-theme explored.

In **Chapter Five**, the researcher provides a (further) critical discussion on the main findings/arguments of this thesis in relation to the extant literature. The theoretical and practical contributions are considered. The chapter also suggests a number of important, practical approaches to making substantive transformation towards OS and overcoming barriers. And, finally, research limitations and recommendations for future studies are identified.

1.7 Chapter summary

This chapter has set the scene for this practice-based DBA study. It has covered important issues such as research background, definitions of key concepts, research focus, the importance of this study, and the research aim, objectives and questions. The theoretical framework and research methods of this study have been briefly introduced. It then identified the under-researched areas in the extant literature and highlighted the contributions as well as motivations underpinning the study. Finally, the structure of the thesis was presented.

Chapter Two: Literature Review

2.1 Introduction

This chapter consists of three main sections: the general review of the relevant sustainability literature and the theoretical frameworks adopted in this study for analyzing the organizational rationales for and barriers to OS engagement. Firstly, it discusses the concepts of sustainability, development of sustainability research and OS in universities (section 2.2). Secondly, regarding research question one 'rationales', this chapter examines sustainability literature relating to this issue, neo-institutional theory and organizational legitimacy theory (section 2.3). Thirdly, sustainability literature concerning the barriers to OS progress for research question two 'barriers' is provided (section 2.4). It should be noted that the use of these theoretical lenses is mainly based on the themes that emerged from the data. The research gaps identified in the existing literature are presented in the end.

2.2 Literature on sustainability and (campus) operational sustainability research

This section covers three bodies of literature: the concepts of sustainability, development of sustainability research and OS in universities.

2.2.1 Concepts of sustainability

As noted previously, among many definitions of sustainability, the Bruntland Report's (1987) definition is the most widely accepted and quoted one: sustainability refers to "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 8). Sustainability comprises three main aspects: environmental sustainability, social sustainability and economic sustainability (Hopwood et al., 2010; Alyamani et al., 2020). "Economic sustainability provides us with future income and resources. Environmental sustainability provides a stable ecosphere that supports and protects life, including the provision of food and water. Social sustainability provides well-functioning societies that protect and enhance quality of life and safeguard human rights" (Hopwood et al., 2010, p. 4).

Essentially, Hawken (1993, p. 139) stresses that economic sustainability does not mean continued economic growth or short-term financial return; instead, "sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations." If pragmatic considerations like economic returns or organizational growth/expansion compromise the capacity of society and environment to meet the needs of future generations, such economic development is unsustainable. To some extent, individuals and organizations have to limit their economic activities and unlimited wants. This notion of economic sustainability is accepted by many researchers (e.g. Landrum and Ohsowski, 2018; Deegan, 2014; Shriberg, 2002; Daly and Cobb, 1994).

The relevant literature suggests that the concept of sustainability has the following characteristics (Shriberg, 2002; Leal Filho, 2000): firstly, sustainability emphasizes long-term impacts on our future generations, society and environment (Reyes and Scholz, 2019). Secondly, individuals and organizations all have ethical obligations and moral responsibilities for social and environmental sustainability. The type of development should be socially just, ethically fair, environmentally sustainable, and economically sound in the long run. Expectations and interests of vulnerable stakeholders with less power should not be ignored (Schaltegger and Burritt, 2018). Thirdly, sustainability requires systemic and holistic thinking and actions that should be trans-boundary and inter-disciplinary (Aleixo et al., 2018). And, fourthly, sustainability is an inclusive and integrated concept, because the three dimensions of sustainability are interdependent (see Landrum 2018; Landrum and Ohsowski, 2018). Traditionally, many prior studies have emphasized either 'environmental' or 'social' topics. However, in the past decade, there has been a trend towards integrated sustainability research in the management literature (Wu et al., 2016).

Although some people support incremental approaches to OS (and it is easier for managers to do so in practice), such strategies are unlikely to make organizations truly embrace social and environmental accountability and bring about the fundamental transformation of society towards sustainability in the long term (Landrum and Ohsowski, 2018). In other words, while incremental approaches to social and environmental change are needed, they are insufficient (Gladwin et al., 1995). Hence, the above-mentioned characteristics of sustainability help "potential change agents conceptualize and operationalize systemic, paradigmatic shifts by rejecting sole reliance on incremental change" (Shriberg, 2002, p. 20).

2.2.2 Development of sustainability research

Over the last few decades, there has been a significant increase in sustainability research published in leading business management journals (Montiel and Delgado-Ceballos, 2014). As Kaufmann and Cleveland (1995) explain, sustainability is a trans-disciplinary concept and needs a multi-disciplinary approach. Therefore, in addition to prominent business management journals, the relevant interdisciplinary journals, focusing on sustainability topics, should also be included. Please refer to the table below for a list of leading academic journals publishing sustainability studies. In spite of the increase in sustainability research, the literature on social responsibility and sustainability is fragmented and is scattered across various sub-fields of management research (Aguinis and Glavas, 2012; Ullah et al., 2020).

Table 2.1 A list of leading journals publishing sustainability-related articles

Top general management journals	Academy of Management Journal
	Academy of Management Review
	Journal of Management
	Organization Studies
	Journal of Management Studies
	Strategic Management Journal
	Academy of Management Perspectives
	Harvard Business Review
	California Management Review
	MIT Sloan Management Review
Specialized social/environmental management-related journals	Business Ethics Quarterly
	Journal of Business Ethics
	Business & Society
	Business & Society Review
	Organization & Environment
	Business Strategy and the Environment
	Business Ethics: A European Review
	Accounting, Auditing & Accountability Journal
	Sustainability Accounting, Management and Policy Journal
Interdisciplinary sustainability-related journals	Journal of Cleaner Production
	International Journal of Sustainability in Higher Education

	Sustainability

Adapted from Montiel and Delgado-Ceballos (2014)

Globally, the United Nations, governments from many countries and non-governmental organizations (NGOs) are concerned about social and environmental issues. They have joined forces and achieved a number of milestones in respect of sustainability, including 1987: Bruntland Commission (our Common Future), 1992: UN Conference on Environment and Development (Rio de Janeiro) Agenda 21, 2000-2015: 8 Millennium Development Goals, 2012: Rio +20 (Rio de Janeiro), and 2015: 17 UN Sustainable Development Goals, etc. Moreover, the reporting standards, such as the Global Reporting Initiative (GRI), have been developed to measure and disclose an organization's sustainability performance, on a voluntary basis.

A number of theoretical perspectives have been adopted in sustainability-related literature, for example, legitimacy theory, institutional theory, stakeholder theory and agency theory (Starik and Kanashiro, 2013). A complete examination of all these theories relating to sustainability is beyond the scope of this DBA study. However, this literature review does present an overview of the two main theories which are applied in this field: neo-institutional theory and organizational legitimacy theory (see section 2.3). Each theoretical perspective offers unique insights to expanding and/or deepening our understanding of sustainability activities, but each has its critics.

2.2.3 Research on (campus) operational sustainability in universities

Although universities are similar to other organizations in many aspects, they do have some distinctive features. Understanding such features is essential to the exploration of universities' decision-making and behaviour in relation to OS. Additionally, it is relevant when researchers assess whether the findings of this study can be applied to other public organizations or private companies, considering the similarities and differences of organizational characteristics and contexts. Prior literature identifies some of the relevant features of universities, particularly English public universities, as below.

Traditionally, the missions of higher education institutions are teaching, research and service. However, as large social institutions in today's society, the missions and goals of universities are more complex. Universities are expected to comply with the requirements of diverse stakeholders and accomplish complex, sometimes competing, objectives. Hence, it takes a great deal of time and energy for campuses to review and establish goals and priorities, and to really embed sustainability into their missions (Shriberg, 2002). Adding to this complexity, as not-for-profit social institutions, English public universities must strike a balance between the financial bottom line and social principles and values that underpin their goals and activities in the long term (e.g. serving the public interest sustainably and being good, responsible examples in the society) (see Ball et al., 2014).

In a university, senior administrators, academics and professional service staff are subject to the influences of multiple professional and managerial cultures. Rothblatt (1995, p. 35) notes, "Universities contain a mixture of collegiate, managerial, senatorial, centralized and decentralized governing styles." Kuh and Whitt (2000, p. 169) also point out, "Colleges and universities are not monolithic entities. Subgroups have their own artifacts and values, which may differ from the host's institutional culture." For instance, faculty members are accountable for and affected by both their home universities as workplaces and their academic disciplines/professional careers as researchers and educators (Shriberg, 2002). Such different cultures and responsibilities may reinforce each other, but sometimes they may conflict. In some instances, the multiplicity and competition among professional and managerial cultures are likely to impede collaboration in addressing trans-disciplinary issues like sustainability (Shriberg, 2002). In particular, the demanding requirements of academic life may structurally remove faculty members from engaging in OS. Across the sector, "this structure has served to imbed the assumption, amongst the faculty, that focusing on the campus is a distraction from the core mission of teaching and research" (Sharp, 2002, p. 139).

All public universities in England have been affected by the public sector reform - New Public Management which is derived from neoliberalism (O'Neill and Sinden, 2021; Bleiklie, 2018; Bessant et al., 2015). As a widely influential ideology and policy model, neoliberalism was promoted by the governments of Thatcher in the UK and Reagan in the US in the 1980s and has become "the defining political-economic paradigm" (McChesney, 1999, p. 7). Some of the key ideas of neoliberalism include open market competition, deregulation, economic liberalization and privatization (Bleiklie, 2018; Bessant et al., 2015). In this context, as a reform model, New Public Management is characterized by a focus on improving financial and operational efficiency, market competition, private sector business-style management practices, outcomes/outputs (rather than processes) oriented, quantifiable performance measurement and evaluation, and quasi-corporate culture (Bleiklie, 2018; Elliott and Wright, 2013; Godemann et al., 2014; Hood 1991).

In association with New Public Management, the government has, in recent years, changed the funding models of English public universities by significantly cutting public funds while raising student tuition fees. Consequently, universities are under increasing financial pressures to reduce operational expenses and staffing. Some scholars argue that New Public Management has an adverse effect on universities' OS (O'Neill and Sinden, 2021; Bessant et al., 2015; Elliott and Wright, 2013), although it may improve the organizational responsiveness to students' services.

Public universities are regulated by the government and are subject to relevant laws and policies. Internally, they have strategic governing bodies such as the council/board of governors, and the executive board/team led by a Vice-Chancellor for their day-to-day management. Green and Hayward (1997) note that "academic CEOs" play influential and active roles in their organizations, especially when New Public Management becomes prevalent in this sector. In addition, there are faculty and student governing bodies (e.g. academic senate and students' union) as well as managers from various functions with different responsibilities, influences and authority (Shriberg, 2002).

Despite the fact that a growing number of higher education institutions have adopted OS-related practices, many scholars argue that sustainability is still not being holistically integrated into universities' organizational systems (e.g. Aleixo et al., 2018; Avila et al. 2017; Jorge, 2015; Milutinovic and Nikoli, 2014). In some aspects, universities are conservative and slow to changes in respect of their operations (Lozano et al., 2013). Alshuwaikhat and Abubakar (2008) criticize that the conventional and reactive environmental management practices in universities are largely on an 'ad hoc' basis which cannot lead to substantive sustainability transformation. The incorporation of sustainability into universities' operations remains fragmented (Leal Filho et al., 2019). Hence, the fundamental and even radical changes advocated by leaders and scholars relating to universities' social and environmental development conflict with the incremental improvements that often take place within these institutions (Shriberg, 2002; see also O'Neill and Sinden, 2021).

The extant literature has examined many areas of OS in universities, such as construction and refurbishment, energy consumption, water usage, waste management, transport and travel, and procurement practices (e.g. Leal Filho et al., 2019; Pacheco-Blanco and Bastante-Ceca, 2016; Adams et al., 2018; Dagiliut and Liobikiene, 2015). However, in operational terms, Waas et al. (2010) note that many universities emphasize their campus environmental management, but sufficient attention has not been paid to social issues in connection with their operations. Specifically, a large number of university top executives are not fully aware of the importance of sustainability in tackling problems like social and economic inequalities in and around the organization (Avila et al., 2017). Therefore, the existing OS practices in universities are not inclusive and holistic (Waas et al., 2012).

2.3 Organizational rationales for OS engagement

Having discussed the characteristics of universities and broad areas relating to OS, the following sections will focus on the literature regarding the central issues of this study: organizational rationales for and barriers to operational sustainability. Based on the evidence in this study, regarding research question one, this study adopts a neo-institutional perspective (the influence of institutional mechanisms), organizational legitimacy theory, coupled with the relevant sustainability literature to help explain the rationales for English public universities to engage in sustainability activities in their (campus) operations. It is worth noting that such theoretical framework and categorization are not pre-selected; instead, they emerged from the data collection and analysis.

2.3.1 Overview of sustainability literature regarding rationales for engaging in OS and business case motivations

Universities adopt OS practice for a number of reasons. Bebbington et al. (2009) suggest that the combination of external institutional factors with internal organizational dynamics contributes to the rationales for an organization to engage in sustainability. With regard to higher education institutions' operations, Cortese (1999, p. 3) contends that, in the absence of strong social pressures, a university may not change "its direction far enough or fast enough" to fundamentally transform towards sustainability. An organization undertakes social and environmental activities partly because of social institutional influences exerted by external stakeholder groups (Aguinis and Glavas, 2012). In the case of universities' OS, government authorities, funding providers, activist groups, media, professional associations and peer universities are viewed as the influential institutional constituents (see Leal Filho et al., 2019; Blanco-Portela et al., 2018; Alshuwaikhat and Abubakar, 2008; Ferrer-Balas et al., 2008).

Diverse constituents have different demands and expectations as to how an organization makes sustainability commitments. Constituents exert their influences on organizations' sustainability policies and actions by playing varied roles and taking different actions. However, such external-oriented institutional influences may sometimes give rise to symbolic sustainability reactions from organizations, as "… these [organizational sustainability-related] initiatives are simply intended to appease stakeholder demands or meet the minimum requirements of standards" (Aguinis and Glavas, 2012, p. 941).

In terms of internal-oriented rationales, many authors (e.g. Engert et al., 2016; Aguinis and Glavas, 2012; Bansal and Roth, 2000) point out that organizations undertake sustainability initiatives mainly because of instrumental reasons for self-interest. Managers consider that sustainability is beneficial to regulatory compliance, operational efficiency, cost saving, economic returns, risk control, organizational legitimacy, organizational image and competitive edge (Jo and Na, 2012; Brammer and Millingon, 2005). Universities' OS engagement is especially motivated by reputation and image management (Dyball, 2010; Sammalisto and Arvidsson 2005; Shriberg, 2002). Additionally, organizations undertake sustainability activities partly because of normative motivations like moral responsibility for social and environmental sustainability, namely, 'the right thing to do' (Aguinis and Glavas, 2012; Aguilera et al., 2007; Bansal and Roth, 2000).

In association with the strategic or pragmatic perspective, the business case appears to be a prevailing organizational rationale for sustainability activities (Landrum and Ohsowski, 2018; Pedersen et al., 2017; Panwar et al., 2017; Hahn et al., 2015). According to Schaltegger et al. (2012, p. 10), "A business case for sustainability intends and realises economic success through (and not just with) an intelligent design of voluntary environmental and social management”. These business case rationales comprise direct business cases such as cost saving/financial income and indirect (or extended) business cases, for example, managing risks, enhancing organizational reputation and using sustainability engagement as marketing/branding tools which also benefit the financial performance and position of the organization (Schaltegger and Burritt, 2018; Panwar et al., 2017; Carroll and Shabana, 2010). Organizations can maintain good financial performance in their operations while taking their social and environmental responsibilities and contributing to the development of a sustainable society. This means that they can ‘do well by doing good’. Hence, such understanding is also considered as a ‘win-win’ for sustainability-related engagement (Reyes and Scholz, 2019; Schaltegger and Burritt 2018; Porter and Kramer, 2011; Kurucz et al., 2008).

A large number of studies analyze the link between ‘do well’ and ‘do good’ and provide various suggestions on how the ‘business case for sustainability’ could be made and ‘win-win’ objectives could be achieved (e.g. Pedersen et al., 2017; Schaltegger et al., 2012; Porter and Kramer, 2011). However, the notion of a win-win business case in this context is not without its critics. Molthan-Hill (2015) argues that the authors of these studies (promoting the business case) tend to assume that an organization has to aim for economic returns and/or competitive advantages, and such assumptions are only briefly discussed or largely unquestioned (Aehlstroem et al., 2009).

In her comparative study between British and German managers’ rationality for organizational sustainability engagement, Molthan-Hill (2015) argues that, in the current (Anglo-American) organizational systems, these business case assumptions are mainly perceived “as if they are a given as unchangeable objective realities” (p. 3). Instead, they are socially constructed and subject to change. In contrast, German managers tend to view that organizations should make long-term sustainability changes that require significant investments, as long as the organizational survival is not jeopardized. Molthan-Hill (2015) questions and criticizes the current 'business case' organizational rationality for carrying out sustainability activities. She advocates that the organizational self-interest-oriented 'business case' rationales should be challenged and changed. As a possible alternative rationale, the German understanding of 'survival' may be adopted when organizations make strategic decisions for sustainability transformation.

From a critical perspective, the logic behind this 'win-win business case' concept is still largely based on making good business; its focus is narrow and limited to 'business as usual' (Reyes and Scholz, 2019; Macgregor, 2015; Banerjee, 2008; Bebbington et al., 2009). For example, it is often argued that organizations use sustainability as a device to strategically protect their image and manage their reputation for the purpose of obtaining support from society. Therefore, such organizational rationale for sustainability may be superficial (Leung and Snell, 2017). In addition, while the prior literature focuses on the prevalence of the business case motivation and argument in the private sector, the influence of such rationality on the OS engagement of not-for-profit English public universities (with a strong emphasis on social values and public interests) remains unclear.

There is also a large volume of studies examining the rationales for organizational engagement in sustainability through lenses of differing social/organizational theories. These will be critically reviewed in the following sections.

2.3.2 Neo-institutional theory

In this section, the researcher first provides an overall discussion of basic ideas of neo-institutional theory, then highlights the neo-institutional theoretical framework employed in this study (integrated with the relevant sustainability empirical studies using neo-institutional theoretical lenses). Neo-institutional theory "expands the focus from the rational, resource-dependence perception common in sustainability-related literature... to a more subtle form, which is influenced by a mixture of factors, more complex than deliberate managerial decision-making" (Bebbington et al., 2009, p. 592). Compared with mainstream theories in explaining rationales for organizational OS commitments (e.g. Organizational legitimacy theory and resource-based theory), neo-institutional theory provides a differing, but complementary, lens to understand how various social factors influence the rationales for organizational sustainability commitment (Higgins and Larrinaga, 2014; Borgstedt et al., 2019). Suchman stresses (1995, p. 572) neo-institutional theory "adopts a more detached stance and emphasises the ways in which sector-wide structuration dynamics generate cultural pressures that transcend any single organisation's purposive control".

2.3.2.1 Introduction of neo-institutional theory

In terms of the development of institutional theory, some scholars suggest there is old and new institutionalism. According to DiMaggio and Powell (1991, p. 13), old institutionalism focuses on contending interests, informal structures, coalitions and organizations, etc. (Selznick, 1949, 1957; Clark, 1960, 1972). By contrast, the emphasis of new institutionalism is on legitimacy, classification, routines, scripts, cognitive/cultural elements, sectors and society, etc. (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). However, as institutional theory develops further, researchers tend to draw on insights from both old and new institutionalism. As Scott (1994, p. 78) suggested, "I see convergent developments among the approaches of many analysts as they recognize the importance of meaning systems, symbolic elements, regulatory processes, and governance systems". Therefore, "It is this convergence around multiple themes, the coming together of the old and the new institutionalism that we label neo-institutionalism" (Greenwood and Hinings, 1996, p. 1023).

Organizational forms, structures, decision-making processes and practices are greatly influenced by socially constructed norms and rules (Scott, 2014). Social values, expectations and taken-for-granted assumptions may differ from culture to culture, vary across countries, and change over time. Neo-institutional theory considers organizations as functioning appropriately within the social context in terms of regulations, norms, values and cultural frameworks (Scott, 2014; Oliver, 1997). An organization complies with institutional influences due to the fact that there are some rewards for compliance like enhanced ability to manage legitimacy, access resources and secure survival in the long run (Scott, 2014).

A widely cited definition of institutions is suggested by Scott (2014, p. 56): "institutions comprise regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life". In this sense, Vermeulen et al. (2007) note that institutions direct people and organizations' motives and behaviors, based on the predefined norms from which the institutions are developed, promoting or restricting organizational activities.

DiMaggio and Powell (1983, p. 148) define an organizational field as "those organizations that, in the aggregate, constitute a recognized area of institutional life." Hoffman (1999) stresses that fields may be based on 'industries' or 'technologies'; they may also be associated with 'issues'. In the context of universities' OS, the organizational field comprises government authorities, students and student-led organizations, activist groups, media, professional associations, peers and competitors, local communities, employees and suppliers "that partake of a common meaning system" (see Scott, 1995, p. 56).

Organizational hypocrisy

Brunsson's theory of organizational hypocrisy (1989, 1990, 1993, 2002, 2007) may provide interesting insights into the examination of organizations' sustainability commitments. The three main outputs of an organization, according to Brunsson (1989), are talk, decisions and actions. Talk (i.e. spoken or written words that a firm uses to communicate with its constituents), decisions and actions are approaches to maintaining legitimacy. Different sub-structures inside an organization may selectively utilize these tools to manage stakeholder groups (Brunsson, 2007). When these outputs are inconsistent, organizational hypocrisy may occur.

Talk and decisions are viewed as incompatible with actions in the context of organizational hypocrisy. They are, however, not decoupled. Rather, as Brunsson (2007, p. 115–116) explains: "In the model of hypocrisy talk, decisions and actions are still causally related, but the causality is the reverse: talk or decisions in one direction decrease the likelihood of corresponding actions, and actions in one direction decrease the likelihood of corresponding talk and decisions. The model of hypocrisy implies that talk, decisions and actions are 'coupled' rather than 'decoupled' or 'loosely coupled', but they are coupled in a way other than usually assumed".

Traditionally, organizational theory has assumed that organizational action is a direct outcome of the organizational leaders' and members' thoughts and decisions. However, organizations have been observed to ''talk in one way, decide in another and act in a third'' (Brunsson, 2002, p. xiii) – using hypocrisy in a counter-coupled manner. Organizational hypocrisy is ''a way of handling conflicts by reflecting them in inconsistencies among talk, decisions, and actions'' (Brunsson, 2007, p. 115). Organizational hypocrisy attempts to explain the inconsistencies among a firm's talk, decisions and actions, and how these inconsistencies may help firms manage the competing stakeholder expectations with more flexibility.

Hypocrisy does not necessarily require a large amount of energy or mobilization. Undertaking a set of actual actions are much more expensive and difficult than talk and decisions. Nonetheless, they address the possibilities for change while concealing the fact that little has fundamentally transformed in the way priorities are articulated or actions are taken. Given the competing demands of diverse stakeholders, Brunsson (2007) contends that organizational hypocrisy is in practice necessary and that, in some circumstances, hypocrisy may increase organizational legitimacy. Even yet, a firm may still be accused of hypocrisy for ‘‘failing to act in accordance with the ideals it espouses’’ (Lipson, 2007, p. 5). As a result, organizations have a significant danger of their hypocritical tactics being too obvious to stakeholders (la Cour and Kromann, 2011), compromising the perceived behavioral integrity and legitimacy in the long term (Simons, 2002).

An organization, as a political entity, may create several, relatively separated sub-structures (e.g. sustainability office) in response to specific requirements of stakeholder management. Separate organizational activities and departments intended to achieve aims that are inconsistent with the organization's core objectives. If duties and procedures for dealing with stakeholder pressures are formed independently, their somewhat autonomous and inconsistent actions are less likely to be called into question. Thus, from a pragmatic perspective, an important approach for top executives is to coordinate their talk, decisions and actions in such a manner that they construct a legitimate solution, appease competing stakeholder requirements, and avoid revealing the detrimental inconsistencies among these activities.

However, Brunsson (1993) suggests that the hypocrisy explained above is not always purposeful. For example, for an organization to meet both the demand of social norms and operational efficiency, it is rather forced to do so. Brunsson (2002, p. 28) points out that while "action takes place in the here and now, ... talk and decisions are often associated with the future." Therefore, by talking and deciding on future actions, today's actions are distanced from today's ideas and the support is maintained for managers and actors (Brunsson, 1993).

Using Brunsson's theory, Cho et al. (2015) contend that conflicting social institutional influences require firms to engage in hypocrisy, significantly restricting the potential for sustainability reports to become substantive disclosures. They conclude that the concept of organizational hypocrisy is valuable to the literature of sustainability reporting because it offers theoretical space for more formally acknowledging and incorporating how the dominant economic system and competing stakeholder demands limit individual firms' action choices. When analyzing post-Cold War peace operations, Lipson (2007) notes that talk and decisions compensate for incompatible actions. This type of counter-coupling gives a firm a means of appeasing some stakeholders through less expensive talk and decisions on future actions while spending more substantial resources on present actions that meet the demands of more influential stakeholders. Stakeholders' perceptions of a firm's actions are shaped by talk and decisions.

2.3.2.2 The neo-institutional theoretical framework adopted in this research: the influence of institutional mechanisms

An increasing number of researchers are focusing on the social influences of a variety of stakeholder groups on the reasons for sustainability engagement (e.g. Jaber and Oftedal, 2020; Ullah et al., 2020; Zuo et al., 2017; Wijethilake et al. 2017; Gürtürk and Hahn 2016; Zhao and Patten, 2016; Higgins and Larrinaga, 2014). Social contexts and their influences are examined by neo-institutional scholars from the perspectives of various institutions: laws, rules, norms, ideas and cultures (Lounsbury and Crumley, 2007). Within the area of sustainability research, Bebbington et al. (2009) note that, rather than deliberate and rational managerial decisions (as suggested by strategic legitimacy perspective), neo-institutional theory is mainly concerned with how different constituents affect focal organizations to "behave in ways that are 'normal' to 'fit in' and appear 'appropriate' within the contexts in which they operate" (Bebbington et al., 2009, p. 592).

DiMaggio and Powell (1983, p. 148) pay close attention to the similarities among organizations in terms of their structures, practices, understandings and cultures. They note: "once a field becomes well established, however, there is an inexorable push towards homogenisation. … Once disparate organisations in the same line of businesses are structured into an actual field (as we shall argue, by competition, the state, or the professions), powerful forces emerge that lead them to become more similar to one another". Based on this, DiMaggio and Powell (1983, p. 149) define isomorphism as "a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions". Nonetheless, isomorphism may or may not result in operational efficiency.

DiMaggio and Powell (1983) contend that coercive, normative and mimetic institutional mechanisms may give rise to isomorphism or similarities in organisational fields. It is noteworthy that, as Beckert (2010) stresses, while the focus of DiMaggio and Powell's (1983) article is on providing theoretical explanation for isomorphism from an institutional perspective, they also recognize organizational diversity and variation (see DiMaggio and Powell, 1983, p. 148)[2]. Scott (2014) further analyzes the institutional influences under three pillars: regulative, normative and cultural-cognitive.

2.3.2.2.1 Coercive institutional mechanisms

Coercive mechanisms emphasize the influences of law, government, market and other structures of control. "Such pressures may be felt as forced, as persuasive, or as invitations to join in collusion" (DiMaggio and Powell, 1983, p. 150). Scott (2014)

---

[2] Institutional researchers have given attention to both homogeneity and heterogeneity. While the focus on organizational variation in forms and approaches is an exciting and popular research agenda (see Greenwood et al., 2014), Meyer and Höllerer (2014) argue that the recent institutional studies tend to overemphasize organizational differences and underestimate similarities. Scholars should not lose sight of other key elements of researching institutions such as recurrence and relative durable patterns. "Thus, a certain degree of similarity among an institution's various enactments – some kind of 'family resemblance' – is inherent in the very notion of 'institution'." (Meyer and Höllerer, 2014, p. 1229).

points out that regulative characteristics are evident in some coercive institutional mechanisms like legislation and government policies. Legislators and government agencies have the power to impose their expectations or demands on organizations. On the one hand, these coercive forces can enforce punishments when organizations breach regulations. On the other hand, they can offer rewards when organizations comply. In such cases, "managers act rationally and make conscious and instrumental choices by calculating the trade-off between anticipated benefits and the likely sanctions" (Bebbington et al., 2009, p. 594). In the context of OS in English universities, for example, the UK Climate Change Act (2008) and a set of building regulations and government planning permissions have direct impacts on organizational OS issues. A public university in England is likely to be coerced into engaging in carbon and energy reduction activities by the pressures from such regulatory forces.

Coercive institutional pressure is supported by a number of sustainability empirical studies. For example, organizations may experience the coercive influences from regulators and other government authorities (e.g. Wijethilake et al., 2017; Bebbington et al., 2009; Zhao and Patten, 2016; Beddewela and Fairbrass, 2016; Qian et al., 2011), overseas business partners or customers in developed countries (e.g. Bebbington et al., 2009; Islam and Deegan, 2008), and investment funds (e.g. Bebbington et al., 2009). It should be noted that, while coercive influences may increase sustainability-related (e.g. environmental management) practices, the relevant organizational engagement mainly driven by passive regulatory compliance may be superficial (Scott, 1995; Bebbington, et al., 2009; Jennings and Zanderbergen, 1995), because such rationales are not actively embracing the moral responsibility.

2.3.2.2.2 Normative institutional mechanisms

Isomorphism may arise through normative mechanisms. A normative mechanism is related to professional influence and professionalization (DiMaggio and Powell, 1983). Professional standards, structures, processes and approaches are developed by professional bodies in a related field. Education institutions, professional networks and associations provide formal and informal education and training, promote professional socialization, disseminate new knowledge and facilitate the diffusion of best practices, resulting in normative isomorphism.

According to Scott (2001, p. 175), normative isomorphism "introduces a prescriptive, evaluative and obligatory dimension into social life, reflecting the values (what is preferred) and norms (how things should be done) of the social system. Social actors working in particular organisational roles are expected to fulfil certain social commitments and obligations". Normative pressure focuses on "a logic of appropriateness replaces, or sets limits on, instrumental behaviour" (Scott, 1995, p. 51). Hence, the key question here is not about "What choice is in my own best interests?" but rather, "Given this situation and my role within it, what is the appropriate behavior for me to carry out?" (Scott, 2014, p. 65). In this respect, 'appropriateness' means people and organizations have ethical responsibilities to act in socially expected ways (March and Olsen 1989), without giving priority to their self-interest over the interests of other social actors. In the case of English universities' OS, for example, student social and/or environmental activist groups criticize and challenge the current 'business as usual' practices of universities' OS and their slow OS progress. They also strongly advocate for substantive transformation towards sustainability in the university sector, contributing to normative mechanisms.

Many sustainability empirical studies support the views of DiMaggio and Powell (1983) and Scott (2014) regarding normative institutional pressures. For instance, normative influences may be exerted by professional associations and education and training (e.g. Beddewela and Fairbrass, 2016; Wijethilake et al., 2017; Zhao and Patten, 2016), NGOs (e.g. Beddewela and Fairbrass, 2016), community expectations (e.g. Qian et al., 2011), and personal or organizational moral values (e.g. Wijethilake et al., 2017; Bebbington et al., 2009).

2.3.2.2.3 Mimetic institutional mechanisms

In uncertain situations, organizations tend to mimic the practices of their successful peers; such imitation is influenced by mimetic mechanisms (DiMaggio and Powell, 1983). If goals are unclear or organizational members do not completely understand or thoroughly test innovative technologies or new practices, mimetic isomorphism is likely to occur. Furthermore, a ritual element exists in mimetic isomorphism (DiMaggio and Powell, 1983). That is to say, organizations mimic legitimate symbols, practices and routines, so as to convey a message that they are conforming to the expectations of relevant stakeholders.

When facing uncertainty, organisations tend to "restrict their selection of organisational structures or practices to those that are being employed by a large number of other organisations or by those organisations which are recognised as being successful within the institutional environment (Carpenter and Feroz, 2001)… the imitation of successful peers is deemed to be a safe strategy" (Zhao, 2011, p. 84).
In addition to reducing uncertainty as to what practices to adopt, managers pay attention to the importance of 'fit-in'. This means that organizational actions need to be 'normal', depending on social contexts. In doing so, organizational legitimacy can be maintained (Scott, 2014). Otherwise, organizations may lose legitimacy (as compared to other organizations in the same field), if they do not make an attempt to follow innovative activities such as OS undertaken by their peers (Unerman and Bennett, 2004). Importantly, if managers think that sustainability strategies can strengthen organizational competitive positions, they would be more motivated to imitate what their successful peers do (Jennings and Zanderbergen, 1995).

Mimetic institutional influence is supported by some sustainability empirical studies (e.g. Ullah et al., 2020; Wijethilake et al., 2017; Gürtürk and Hahn, 2016; Bebbington et al., 2009; Zhao and Patten, 2016). For instance, sustainability managers of a large apparel manufacturing company in Sri Lanka stated that the organization imitated some management control practices for sustainability of leading organizations in the industry, in particular those of its competitors. Leaders and competitors in the sector exerted mimetic pressures on the case company in this context (Wijethilake et al., 2017). Similarly, some large New Zealand companies monitored and bench-marked themselves against the activities of other large corporations in the country. They joined the Business Council for Sustainable Development and initiated sustainability reporting practices, partly because other large peers did the same things, illustrating mimetic influence (Bebbington et al., 2009). Notably, when investigating sustainability practices of higher education institutions, some scholars stress that peer pressure especially from competing universities promotes sustainability within organizations (Aleixo et al., 2018; Ferrer-Balas et al., 2008; Sammalisto and Arvidsson, 2005).

In practice, Scott (1995, p. 144) notes that "concrete institutional arrangements will be found to combine regulative, normative and cognitive processes together in varying amounts." Organizations are likely to encounter multiple institutional pressures arising from various institutions in different circumstances; different forms of influences may be exerted by the same institution (Scott, 2014).

2.3.3 Organizational legitimacy theory

Social institutional factors cannot fully explain the complex rationales for organizational OS engagement. Deliberate, rational legitimacy-seeking motivations have also been discussed by the extant literature. In this section, the researcher first introduces the basic concepts of legitimacy theory, then discusses the organizational legitimacy theoretical framework (different sources of legitimacy, conflicts in the process of maintaining legitimacy and substantive-symbolic legitimation) utilized in this study.

2.3.3.1 Introduction of legitimacy theory

Many scholars point out that, initially, it was Weber who introduced legitimacy into organizational theory (Johnson et al., 2006; Ruef and Scott, 1998; Suchman, 1995). Suchman (1995, p. 574) offers a generic definition of legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate *within* some socially constructed system of norms, values, beliefs and definitions". In a similar vein, Lindblom (1993, p. 2) provides another definition: "legitimacy is a condition or status which exists when an entity's value system is congruent with the value system of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity's legitimacy."

Deephouse and Suchman (2008) state that legitimacy can be assessed for and conferred to a variety of subjects. This research is concerned with organizational legitimacy. According to Deephouse et al. (2017, p. 9), "organizational legitimacy is the perceived appropriateness of an organization to a social system in terms of rules, values, norms, and definitions." An entity should try to be seen as operating within its society's norms and value systems. An entity has to be (or be perceived to be) accountable, ethical and legitimate, as required by its various relevant publics (Lindblom, 1993).

Organizational legitimacy can have a serious impact on organizations, so its importance and benefits cannot be ignored (Deephouse et al., 2017). Earlier studies indicate that it is essential for organizations to maintain the legitimacy of their activities, so as to ensure their long-term survival and development. In some cases, legitimacy may also be managed by organizations as a strategic tool to achieve organizational goals such as acquiring resources, enhancing competitive positions and strategic choice, obtaining stakeholders' support, improving financial performance, gaining access to markets, and avoiding criticisms or challenges from the public (Choi and Shepherd, 2005; Suchman, 1995; Brown 1998). Otherwise, “organizations that . . . lack acceptable legitimated accounts of their activities . . . are more vulnerable to claims that they are negligent, irrational or unnecessary.” (Meyer and Rowan, 1991, p. 50).

Legitimacy theory is concerned with the “central notion of an organisation’s ‘social contract’ with society and predicts that management will adopt particular strategies (including reporting strategies) in a bid to assure the society that the organisation is complying with the society’s values and norms (which are predicted to change over time)” (Deegan, 2009, p. 294). A ‘social contract’ can be considered as an implied contract between an organization and the society in which it exists and operates (Deegan, 2014; Patten, 2020; Deegan, 2009).

Broadly speaking, an organization’s legal status is granted by society, and the permission for an organization to own and use social and natural resources is also given by society. An entity has no inherent right to such resources; it needs to meet explicit and implicit demands of the society as to how an organization is supposed to conduct its operations. Nonetheless, when an entity fails to behave in a socially acceptable manner and does not comply with the ‘social contract’, sanctions can be imposed by the society on the entity, restricting and even stopping its operations (Deegan, 2014, 2009, 2002; Guthrie and Parker, 1989).

Deegan (2014, p. 254) describes “legitimacy gap” as “the situation where there appears to be a lack of correspondence between how society believes an organization should act and how it is perceived that the organization has acted”. The growing gap is likely to pose a ‘threat’ to the legitimacy of an entity. Previous studies show that organizational legitimacy may be threatened when its sustainability activities differ significantly from what society expects (e.g. Deegan, 2014, 2009; Newson and Deegan, 2002). Organizations may employ sustainability initiatives as tools in order to narrow legitimacy gaps, avoid legitimacy threats and eventually secure legitimacy.

The state of organizational legitimacy is in flux. Legitimacy changes may occur when there are changes in social norms and expectations, and an organization needs to respond to these transitions in society, “or the legitimacy gap will grow as the level of conflict increases and the levels of positive and passive support decrease” (Lindblom, 1993, p. 2). Relevant publics constantly evaluate an organization’s goals, strategies, actions and results for the purpose of meeting their changing demands. As a result, the legitimacy gap can still change, even though an entity does not adjust its practice.

Many scholars have used organizational legitimacy theory to examine managerial rationales for engaging in sustainability-related activities (e.g. Leung and Snell, 2017; Usmani et al., 2020; Schaltegger and Ho¨risch, 2017; Deegan, 2014; O’Dwyer et al., 2011; Cho, 2009). A detailed examination of relevant empirical studies adopting legitimacy perspectives will be provided in the following sections.

2.3.3.2 Organizational legitimacy theoretical lenses adopted in this study

In accordance with legitimacy theory, an organization’s practice is legitimate when it is perceived to be socially accepted. However, organizational legitimacy is mainly on the basis of people’s perceptions (Dowling and Pfeffer, 1975). Deegan (2014, p. 248) further suggests “for an organization seeking to be legitimate it is not the actual conduct of the organization that is important, it is what society collectively knows or perceives about the organization‘s conduct that shapes legitimacy.”

2.3.3.2.1 Sources of legitimacy

According to Deephouse et al. (2017), “to be considered a source of legitimacy, the stakeholder must not only make an assessment about the legitimacy of the subject but that assessment must generalize into a broader view of the overall appropriateness of the organization in its social system” (p. 14). An organization may seek to gain support or acceptance from the sources of legitimacy. The commonly researched sources are regulators, government agencies, media, funding providers/investors, social movements and activist groups, professional bodies, consumers and the general public, etc. (Deephouse et al., 2017; Deephouse and Suchman, 2008).

Organizations continue to reach various sources to legitimize their behavior. However, in this process, they can, to some extent, deploy different approaches to determine which sources of legitimacy to emphasize, because some sources are perceived to be more influential than others (Deephouse et al., 2017; Oliver, 1991; Suchman, 1995; Clemens and Cook, 1999). In the context of sustainability, Laughlin (1991) also proposes that organizations may engage in some social and/or environmental activities mainly for the purpose of gaining and sustaining legitimacy from influential sources (powerful stakeholders).

Regulators and government agencies are the authorities who "have standing and license, derived from the organisation's legitimating account of itself" (Deephouse and Suchman, 2008, p. 55). This group sets out rules to regulate how organizations should conduct themselves in certain areas and directly impacts the operation and continuation of organizations (Bitektine, 2011; Deephouse and Suchman, 2008). Another related source of legitimacy is certain professional bodies with "collective authority over what is acceptable theory" (Deephouse and Suchman, 2008, p. 55).

Media is an important source of legitimacy. As Baum and Powell (1995) propose, media may sometimes be considered as one of the indicators of legitimacy from broader society. Further, news media may function as "a monitoring service by reporting illegitimate activities" (Hybel, 1995, p. 244). Various forms of media are employed to assess and communicate organizational legitimacy (Deephouse and Suchman, 2008), such as traditional news media reports (Pollock and Rindova, 2003; Deephouse, 1996; Brown and Deegan, 1998), prestige media like the Wall Street

Journal and the New York Times (Lamin and Zaheer, 2012; Bansal and Clelland, 2004) and social media (Castelló et al., 2016). It should be noted that, while media reports may sometimes represent people's opinions, the views of the general public can also be affected by media coverage (Fombrun and Shanley, 1990; Deephouse, 1996).

Organizations also seek other sources, such as funding providers/investors (Certo, 2003), customers (Islam and Deegan, 2008) and activist groups (Rao et al., 2000), to legitimize their activities. In some cases, activist groups can play important roles in shaping the views of the general public and regulations/policies of governmental authorities. "They actively advocate for the legitimation of certain subjects and the de-legitimation of others" (Deephouse et al., 2017, p.16).

Each of these sources of legitimacy can provide certain forms of regulatory, financial, social and/or political support to protect or further the self-interest of focal organizations (Leung and Snell, 2017). Crucially, Suchman (1995, p. 576) characterizes (strategic) legitimacy approach and notes it often "depicts legitimacy as an operational resource (Suchman, 1988) that organization extract --- often competitively --- from their cultural environments and that they employ in pursuit their goals….". In some cases, organizations may conform to the certain expectations of some influential sources, especially when social demands are congruent with seeking organizational practical self-interest and critical resources. This view has been shared by many leading scholars adopting legitimacy theory in their research (e.g. Suchman, 1995; Ashforth and Gibbs, 1990; Beddewela and Fairbrass, 2016; Sonpar et al. 2009).

2.3.3.2.2 Conflicts in the process of maintaining legitimacy and substantive-symbolic legitimation

Legitimation refers to the process by which organizations seek legitimacy (Soobaroyen and Ntim, 2013). Suchman (1995, p. 576) points out another key theme of legitimacy theory: “In keeping this instrumental view, strategic legitimacy researchers generally assume a high level of managerial control over legitimation process,… predicts recurrent conflicts between managers and constituents over the form of legitimation activities, with managers favoring the flexibility and economy of symbolism, whereas constituents prefer more substantive responses (e.g. Ashforth & Gibbs, 1990). Legitimation, according to this view, is purposive, calculated and frequently oppositional” (p. 576). Consistent with this view, sustainability-related literature suggests that narrow, pragmatic organizational self-interest may conflict with moral legitimacy - the rightness for the good of society and environment (Deegan, 2014; O'Dwyer et al., 2011).

Suchman (1995) proposes three types of legitimacy: moral, pragmatic and cognitive[3]. This research focuses on the examination of the concept of moral legitimacy. According to Suchman (1995), moral legitimacy emphasizes constituents’ perceptions as to whether the action of an organization is the right thing to do. Moral legitimacy is not about serving the pragmatic self-interest; instead, it is dependent upon ethical and normative assessment (Aldrich and Fiol, 1994). That is to say, the basis of an organization’s moral legitimacy is concerned with whether its actions make positive contributions to social welfare - an altruistic reason. Suchman (1995, p. 579) stresses that “at its core, moral legitimacy reflects a prosocial logic that differs fundamentally from narrow self-interest.”

Moral legitimacy comprises four sub-types: consequential, procedural, structural and personal legitimacy (Suchman, 1995). Consequential legitimacy centres on whether an organization achieves socially expected outcomes. That is to say, is the entity seen as doing the right things by its audiences? Consequential moral legitimacy means that organizations would make concrete changes to their operational activities. By

[3] Pragmatic legitimacy for organizational activities is concerned with the perception/assumption of the focal organization’s most immediate audiences on practical outcomes relating to the audiences’ self-interest. Cognitive legitimacy reflects the taken-for-granted cognition. Cognitive legitimacy is the most difficult to obtain.

employing procedures and techniques which are in line with social values, procedural legitimacy can be established. Structural legitimacy emphasizes an organization's "socially constructed capacity to perform specific types of work" (Suchman, 1995, p. 581). It represents the general features of an organization which can be more long-lasting. Personal legitimacy is related to the charisma of individual leaders of an entity. However, personal legitimacy is transitory and less common.

In the context of sustainability, Ellram and Golicic (2016, p. 599) state: "While these actions [seeking moral legitimacy of caring for society and environment] are not necessarily free from self-interest, the prosocial perception is such that the primary goal of such behavior supersedes narrow self-interest (Suchman, 1995)". However, Deegan (2014) criticizes that, in practice, many organizations' social or environmental activities are passive and reactive to social expectations, as opposed to taking responsibility in true and proactive manners. In the process of pursuing legitimacy, organizations often encounter various conflicts between instrumental motives for securing narrow organizational self-interest and moral responsibilities for taking care of the broader society and natural environment. Scholars point out that problems occur when an organization's sustainability legitimacy management actions act as a means of maintaining its existing operation (Bebbington et al., 2009; Unerman and Bennett, 2004). In some instances, an organization's management team may think that "unless specific concerns are raised then no accountability appears to be due" (Deegan, 2014, p. 264). Maintaining 'business as usual' seems to be the main motivation for securing legitimacy. Consequently, present sustainability-related practices do not result in or even prevent organizations from making actual, substantive changes towards sustainability.

When facing multiple expectations of different sources of legitimacy and competing existing organizational goals, priorities and self-interest, Oliver (1991) suggests that, as opposed to full conformance, organizations may make compromise responses to social institutional expectations by maintaining a balance among different stakeholders or pacifying them. Under such circumstances, balancing refers to accommodating a variety of stakeholders' demands by showing conformity to at least some of these expectations (e.g. by meeting minimum government standards). In the meanwhile, organizations also seek internal interests. Pacifying involves partial and even ceremonial conformance with some expectations of powerful stakeholders, while focusing organizational attention on appeasing them (Oliver, 1991).

Compromise is viewed as a form of reaction by an organization to institutional expectations and influences (Oliver, 1991). Organizations may utilize compromise strategies to adhere to and accommodate social rules, principles, values or definitions. However, such strategies only lead to partial and limited institutional compliance and firms tend to more actively promote their own agendas and further their own interests. Hence, the compromise could reflect organizational resistance to social demands in an indirect way (Oliver, 1991).

In some cases, an organization is likely to selectively conform to constituents' expectations and to adopt sustainability practice accordingly. Such selective engagement is based on the power, urgency and legitimacy of the relevant publics' demands (Mitchell et al., 1997) rather than the organization's genuine social and environmental accountability. It appears that sustainability is employed by organizations to portray themselves as socially and environmentally responsible entities, so as to keep the business environment in which they operate favorable and stable. In other words, sustainability can be viewed as a strategic tool for managing organizational legitimacy (Leung and Snell, 2017).

Substantive and symbolic legitimacy management approaches

Importantly, Ashforth and Gibbs (1990) suggest two general legitimation approaches: substantive and symbolic management. Substantive management involves "material change in organisational goals, structures, and processes or socially institutionalized practices” (Ashforth and Gibbs, 1990, p. 178). Examples of substantive management strategies include role performance and coercive isomorphism. Role performance means “the organization may simply meet the performance expectations of those societal actors upon which it depends for critical resources” (Ashforth and Gibbs, 1990, p. 178). And the concept of coercive isomorphism has been discussed in ‘2.3.2.2.1 Coercive institutional mechanisms’, such as conforming to the relevant laws and governmental regulations.

By contrast, symbolic management means “rather than actually change its ways, the organization might simply portray - or symbolically manage - them so as to appear consistent with social values and expectations” and “transforms the meaning of acts” (Ashforth and Gibbs, 1990, p. 180). Tactics of symbolic management include: espousing socially acceptable goals, offering accounts, ceremonial conformity and associating with legitimate symbols, and so on (Ashforth and Gibbs, 1990, pp. 180-181).

Espousing socially acceptable goals refers to publicly supporting socially expected goals but actually accepting less socially desirable ones. For instance, many firms publicize policies on various sustainability-related issues, but pay less attention to monitoring and enforcing they are followed consistently (Savage et al., 2002). Offering accounts involves providing explanations “to remove one from a situation that may reflect unfavorably on one's image or claims to legitimacy” (p. 181). For example, organizations may make excuses; their responsibility for particular cases may be denied or minimized by such excuses. Ceremonial conformity is concerned with partial conformance, but with emphasis on symbolic, superficial impressions. In effect, such actions merely offer the appearance of conformance but lack substantive commitments. As an example of ceremonial conformity, ethics committees, environment committees or task forces for reviewing industrial accidents may be set up, to give the impression of action without the substance (Ashforth and Gibbs, 1990).

In securing legitimacy, organizations may use either substantive or symbolic management approaches or both. A substantive legitimation strategy entails real, material changes in organizational operations to comply with societal values and expectations, whereas a symbolic strategy seems to adhere to societal values and expectations but does not substantially change organizational operations. However, Ashforth and Gibbs (1990, p. 181) warn that “the organization might adopt certain highly visible and salient practices that are consistent with social expectations while leaving the essential machinery of the organization intact.” Suchman (1995, p. 597) also criticize that organizations may appear to conform to moral legitimacy by showing “hollow symbolic gestures to the public, or mix self-serving claims with moral demands for the whole society”.

Organizational legitimacy theory is widely used in relevant sustainability empirical research (Patten, 2020; Borgstedt et al., 2019). For example, Adams (2013) conducted an analysis of the relevant strategic document data on the websites of sample universities and her study unveiled that the majority of organizations only offered lip service to essential and challenging sustainability issues or problems, reflecting symbolic and superficial legitimation. Leung and Snell (2017) examined why and how companies in Macao’s gambling industry undertook sustainability-related activities. Their analysis suggested that these firms used such activities to seek legitimacy with the government and other influential stakeholders. In return for meeting some of their expectations, gambling companies could obtain different self-serving benefits. In their study, sustainability-related policies and practices were mainly for securing corporate self-interest and only incidentally pursued moral legitimacy by meeting some normative demands. Organizational sustainability engagement was more symbolic than substantive, and sustainability was largely subordinated to pragmatic business interest.

In analyzing sustainability-related decisions and activities of multinational enterprises’ subsidiaries in Sri Lanka, Beddewela and Fairbrass (2016) noted that conformity was likely to occur if an organization thought such compliance could lead to the fulfillment of its self-interest. They also argued that some organizations used compromise and manipulation responses (Oliver, 1991) to strategically establish legitimacy and reconcile the conflicts between stakeholders' sustainability-related demands and organizational self-interest. Furthermore, the researched organizations were not engaging in sustainability-related activities simply to fulfill their moral, social obligations, but for more pragmatic, instrumental reasons. O'Dwyer et al. (2011) investigated the process of establishing legitimacy for sustainability assurance/audit practice and revealed the conflicts between moral legitimacy (i.e. ethically accountable for non-client public users of assurance statements) and pragmatic, narrow interests for assurance business providers and their corporate clients. They stressed that, in some cases, the attempts at securing self-serving organizational interests undermined the attainment of moral legitimacy.

Crossley et al. (2021) point out that few operational sustainability empirical studies have explicitly adopted symbolic-substantive legitimation theoretical lens. Rodrigue et al. (2013) analyzed the environmental governance practices of firms from environmentally sensitive industries and suggested that sample companies mostly adopted environmental governance practices in a symbolic manner to manage stakeholder perceptions on organizational environmental performance and maintain legitimacy, with limited substantive impact on operations. The authors pointed out that symbolic legitimation was viewed as a type of impression management that helped companies to better manage constituent relationships and even influence constituents' perceptions (see also Ashforth and Gibbs 1990). Such impression management assisted companies in maintaining and improving their organizational reputation.

Soobaroyen and Ntim (2013) studied the corporate disclosure concerning HIV/AIDS health issues in South Africa. They noted that sample corporations used both substantive and symbolic strategies, but their approaches were more inclined towards symbolic legitimation. Despite the fact that there had been a normative expectation, among different stakeholders, that South African large companies should take their HIV/AIDS health-related responsibility in a substantive way, the evidence of their analysis suggested insufficient adherence to such societal expectations for substantive actions. Substantive legitimation was at best piecemeal. Crossley et al. (2021) researched the social and environmental practices at UK small and medium-sized enterprises and revealed that these enterprises utilized a mix of symbolic and substantive means of legitimation. It had not been attempted previously to apply this legitimacy theoretical perspective within small and medium-sized enterprises' social and environmental practices, so their study was the first of this kind (Crossley et al., 2021).

2.3.4 Joint consideration of these two complementary theories

The orientations and emphases between 'inside-out' organizational legitimacy theory and 'outside-in' neo-institutional theory are different (Porter and Kramer, 2006; Suchman, 1995). From an organizational/managerial point of view, the (strategic) organizational legitimacy perspective views legitimacy as operational resources for organizations to pursue their own goals and assumes manager-stakeholder conflicts over symbolic or substantive legitimation (Sucman, 1995; Elsbach, 1994).
Neo-institutional theory is different but complementary to organizational legitimacy theory in sustainability research. From a social/institutional point of view, the neo-institutional approach focuses on how different institutional (largely external) mechanisms combine to influence organizational rationale and behavior in a broad sense (Bebbington et al., 2009). Suchman stresses (1995, p. 572) neo-institutional theory "adopts a more detached stance and emphasises the ways in which sector-wide structuration dynamics generate cultural pressures that transcend any single organisation's purposive control". These two theories are interrelated and overlap to some extent; both are pertinent to this study.

Joint consideration of these two related theories can enrich our understanding of OS in universities and provide a refined explanation as to why English public universities engage in OS activities than would be possible if only one theoretical perspective was adopted. Suchman (1995, p. 577) points out: "…real-world organizations face both strategic operational challenges and institutional constitutive pressures, it is important to incorporate this duality into a larger picture". Gray et al. (1995, p. 67) also suggest that different complementary theories are "sources of interpretation of different factors at different levels of resolution". Many scholars have combined multiple theories to gain richer insights when studying sustainability issues (e.g. Borgstedt et al., 2019; Fernando, 2013; Islam, 2009; Islam and Deegan, 2007; Deegan, 2009).

2.4 Barriers to operational sustainability progress

In terms of research question two, the researcher draws on insights from relevant sustainability literature so as to better understand the various barriers to OS engagement of universities in England.

Having examined the issue of 'organizational rationales', the following sections will discuss the existing literature which helps to understand the second research topic under study: 'barriers'. In this research, barriers refer to the factors that could influence the further advancement of operational sustainability in a negative manner (Velazquez et al., 2005). The researcher draws on insights from prior literature in relation to factors impeding sustainability progress, in order to offer a general sense of reference to the barriers to OS in universities. The barriers are broadly grouped into two main categories: organizational-related barriers (focus on internal, organizational factors or causes) and social institutional-related barriers (mainly derived from external social contexts which are beyond individual organizational level).

2.4.1 Literature concerning main organizational-related barriers

This study synthesizes the main potential organizational-related barriers inhibiting OS progress as discussed in sustainability literature. The related barriers found in the literature concern organizational strategic directions (e.g. inconsistency between OS and universities' focus on short-term economic interests, and low priority of OS), management and structure (e.g. insufficient commitments of top management, lack of sustainability policies, committees and offices), insufficient financial and human resources, lack of awareness, interest and understanding among different organizational members, and silo mentality, etc.

The extant literature suggests that sometimes the long-term (and even trans-generational) nature of OS may clash with organizational short-term economic interests (Kuppig et al., 2016; Slawinski et al., 2017; Cagno et al., 2013). Velazquez et al. (2005, p. 6) label universities' "profits mentality" as a barrier in this regard. In many instances, university leaders aim to ensure that organizational activities increase revenues or decrease expenses in the short term. Consequently, the "focus on short-term profit as a result of managerial thinking and policy making in HE [higher education]" (Verhulst and Lambrechts, 2015, p. 3) may discourage long-term investments in sustainability (Avila et al., 2017). Dahle and Neumayer (2001) also stress that some advanced sustainable technologies and equipment which take a long time to pay for themselves are not widespread among universities; in contrast, sustainability projects with short-term economic payback periods are favoured. However, these activities could make it harder to economically justify the programmes with long payback periods (more than five years). Similarly, Sourani and Sohail (2011) note that the lack of a long-term perspective obstructs OS development. Since some benefits of OS are usually realized over time, not all parties involved could see/value them and, as a result, some might not be interested in making OS investments.

Newman and Breeden (1992, p. 211) assert: "It [environmental sustainability issue] is arguably the hardest to address, because environmental risks are less personal, less immediate and, therefore, have less apparent urgency.” In this light, a great barrier to OS advancement in universities appears to be the low priority of such issues within an organization (Blanco-Portela et al., 2018; Leal Filho et al., 2019; Elliot and Wright, 2013; Krizek et al., 2012; Velazquez et al., 2005). Crucially, this factor may create or exacerbate other barriers (Shriberg, 2002). For example, the lack of financial and human resources could be partly due to the fact that strategic priority is not given to OS in universities. Sharp (2002, p. 133) reinforces this point: “If we do manage to get the environmental imperative on the agenda of university decision makers it is often seen as a late arriving competing priority that will have to wait its turn to be addressed – and who knows when this will be”.

Velazquez et al. (2005) note that lack of sustainability leadership at the senior level within universities is considered a significant barrier. Often, instead of senior managers, students or sustainability practitioners take the lead on the transition towards sustainability. The lack of responsibility for sustainability at the university top executive level hinders the ‘whole institution’ sustainability change (Adams, 2013; Aleixo et al., 2018; Avila et al., 2019; Blanco-Portela et al., 2018). Senior administrators determine the allocation of financial and administrative resources. A bottom-up sustainable initiative is unlikely to succeed in the long run, without their necessary assistance (Avila et al., 2017). Additionally, the lack of sustainability management structures (e.g. policies, committees, working groups and offices) in some universities may hamper sustainability advancement (Avila et al., 2017; Avila et al., 2019).

According to prior sustainability literature, financial resources for sustainability initiatives are the main concern for many universities (e.g. Avila et al., 2017; Aleixo et al., 2018; Avila et al., 2019; Blanco-Portela et al., 2018). Financial difficulties may stifle investment in more sustainable programmes, particularly if a higher initial capital cost is needed. Some may even use these as excuses to avoid tackling OS-related problems (Sourani and Sohail, 2011). On the other hand, the low funding availability limits organizational capacity to make further sustainability-related investments, even though some higher education institutions want to improve. In addition, the lack of funds is likely to negatively affect the future planning and development of OS activities (Velazquez et al., 2005). The slowing economy and government policy changes (i.e. state funding reduction) have impacted universities and they have had to cut budgets by decreasing expenses among university departments and initiatives. Money is reallocated to the prioritized areas, but sustainability is not a top priority for a great number of universities (Blanco-Portela et al., 2018; Leal Filho et al., 2019; Velazquez et al., 2005).

Many previous studies suggest that a lack of human resources is another barrier (e.g. Aleixo et al., 2018; Blanco-Portela et al., 2018; Ceulemans et al., 2014; Bero et al., 2012). There are usually very few dedicated staff specifically allocated to OS within universities, and the majority of executives, faculty members, supporting staff and students who participate in OS activities have other primary duties and main tasks (Velazquez et al., 2005). The small number of managers with OS responsibilities heavily rely on volunteers to promote and implement OS projects. However, busy academic and professional service volunteers have to balance their OS engagement with their heavy job workload. Student volunteers also face the pressure of performing well in their academic development, especially during end of term assessment, and fulfilling their personal obligations at the same time (Velazquez et al., 2005). Consequently, these other organizational members' lack of time for OS because of their primary responsibilities is a serious constraint to continuous OS progress (Sourani and Sohail, 2011; Dahle and Neumayer, 2001).

In many instances, staff directly responsible for OS criticize that a significant number of organizational members in universities are not fully aware of OS issues or are not strongly interested in OS (Aleixo et al., 2018; Velazquez et al., 2005). In addition, it appears that many people in the university community have not gained a complete and deep understanding of their social and environmental responsibilities and the urgency of taking immediate actions. The lack of awareness, interest and knowledge about OS may lead to limited participation and engagement (Avila et al., 2019; Dahle and Neumayer, 2001).

Another cognition/culture-related barrier is concerned with inward-looking silo mentality. de Waal et al. (2019, p. 2) explain that silo mentality is a mindset when "groups, teams, or departments do not want to share skills, knowledge, or information with other areas" within an organization or do not "act as 'one business'". These organizational silos are related to "the excessively insular mindset or mentality through which these boundaries shape behaviors and ways of working that inhibit cross-boundary collaboration and cooperation" (de Waal et al., 2019, p. 2). Some scholars warn that such psychological boundaries may sometimes lead to compartmentalization and segregation (de Waal et al., 2019; Diamond and Allcorn, 2009).

Adams (2013, p. 386) argues that "siloed thinking and funding across both functions and disciplines, encouraged both by the way universities tend to organise into academic disciplines and by adherence to rigid or traditional norms about what constitutes an appropriate university structure and focus". Waheed (2017a) also notes that only a small proportion of students, employees and external constituents recognize the dynamic and complex relationships that exist between issues of sustainability in a systemic way. A large percentage of members of each stakeholder group are still looking for solutions separately and attempting to fix only the parts of the issues which concern them. Moreover, "this inward-looking perspective has encumbered the long-term perspective as well as collective awareness of the shared challenge" (Waheed, 2017a, p. 3).

On the basis of the literature review above, the table below presents the main organizational-related barriers to OS progress. The relevant literature discussing these topics is also included.

Table 2.2 The summary of relevant literature regarding the organizational-related barriers to OS progress

Organizational-related barriers	Authors from literature
Inconsistency between OS and universities' focus on short-term economic interests	Avila et al., 2017; Verhulst and Lambrechts, 2015; Kuppig et al., 2016; Panwar et al., 2016; Slawinski et al., 2017; Cagno et al., 2013; Sourani and Sohail, 2011; Velazquez et al., 2005; Dahle and Neumayer, 2001.
Sustainability is not a top strategic priority within organization	Blanco-Portela et al., 2018; Leal Filho et al., 2019; Elliot and Wright, 2013; Krizek et al., 2012; Velazquez et al., 2005; Shriberg, 2002.
Insufficient support and commitment of top management	Ávila et al., 2019; Blanco-Portela et al., 2018; Avila et al., 2017; Aleixo et al., 2018; Blanco-Portela et al., 2017; Leal Filho et al., 2017; Brandli et al., 2015; Leal Filho et al., 2015; Ceulemans et al., 2014; Waas, et al., 2012; Ferrer-Balas et al., 2008; Shriberg, 2002; Velazquez et al., 2005; Dahle & Neumayer, 2001.
Lack of sustainability policies, committees, working groups and offices	Avila et al., 2019; Avila et al., 2017; Leal Filho et al., 2017; Brandli et al., 2015; Leal Filho et al., 2015;

	Nidumolu et al., 2009.
Insufficient financial resources	Ávila et al., 2019; Aleixo et al., 2018; Blanco-Portela et al., 2018; Avila et al., 2017; Ceulemans et al., 2014; Elliot and Wright, 2013; Bero et al., 2012; Waas et al., 2012; Sourani and Sohail, 2011; Jabbour, 2010; Krizek et al., 2012; Velazquez et al., 2005; Shriberg, 2002.
Lack of dedicated human resources	Aleixo et al., 2018; Blanco-Portela et al., 2018; Ceulemans et al., 2014; Bero et al., 2012; Jabbour, 2010; Velazquez et al., 2005.
Other organizational members' lack of time to participate	Blanco-Portela et al., 2018; Aleixo et al., 2018; Ceulemans et al., 2014; Sourani and Sohail, 2011; Fenner et al., 2005; Velazquez et al., 2005; Dahle and Neumayer, 2001.
Lack of awareness and interest among different organizational members of university	Aleixo et al., 2018; Ávila et al., 2019; Leal Filho et al., 2017; Ceulemans et al., 2014; Jabbour, 2010; Fenner et al., 2005; Velazquez et al., 2005; Shriberg, 2002.
Insufficient knowledge regarding different areas	Blanco-Portela et al., 2018; Aleixo et

and practices of sustainability	al., 2018; Ávila et al., 2019; Leal Filho et al., 2017; Brandli et al., 2015; Ceulemans et al., 2014; Elliot and Wright, 2013; Waas et al., 2012; Jabbour, 2010; Velazquez et al., 2005; Dahle & Neumayer, 2001.
Silo thinking and working within organizations	de Waal et al., 2019; Waheed, 2017a; Shiel and Williams, 2015; Adams, 2013; Hansen, 2009; Aaker et al., 2008; Diamond and Allcorn, 2009.

2.4.2 Literature concerning main social institutional-related barriers

In addition to organizational-related barriers, the external institutional dimension of barriers is equally important. The extant literature indicates the following key social institutional-related barriers: insufficient or inadequate legal and governmental influences, limited social pressures from non-government stakeholders, and, recently, the main negative impacts of COVID-19 on universities and OS, etc.

According to sustainability literature, a lack of rigorous regulations and government policies may impede the development of OS in universities. And effective execution and enforcement of regulations need to be emphasized (Brandli et al., 2015; Leal Filho et al., 2015; Avila et al., 2019; Waas et al., 2012; Chang and Deegan, 2010). Many government sustainability-related strategies, guidelines and targets are dependent upon universities' voluntary actions, but researchers warn that voluntarism does not always work well in these contested and complex issues and advocate that mandatory regulations are necessary (Sourani and Sohail, 2011; Estevez, 2002).

Moreover, the government does not allocate sufficient funding to organizations for OS (Blanco-Portela et al., 2018; Sourani and Sohail, 2011). This factor is likely to adversely affect organizations' sustainability investments and hinder their long-term thinking. These authors also point out the government's lack of long-term perspective. For instance, the government might only be in power for a couple of years and thus that time would not be enough to achieve many of the social and environmental benefits offered by sustainability commitments. Consequently, "government and politicians may be reluctant to invest in more sustainable solutions, favouring thereby their own short-term interests over the long-term interests of the wider society" (Sourani and Sohail, 2011, p. 234).

From the perspective of neo-institutional theory, Oliver (1991) proposes that, while strong coercive mechanisms are likely to force organizations to conform to institutional demands, the low degree of legal or governmental coercion may lead to organizational resistance to institutional forces. "When the degree of institutional enforcement, vigilance, and sanctions for noncompliance are more moderate, organizations often seek compromises on the scope or timing of their compliance" (Oliver, 1991, p. 168). Therefore, within the area of sustainability, the insufficient or inappropriate coercive influence imposed by central government, sector regulator and local authorities could be a barrier to OS advancement in English universities. For a detailed discussion of neo-institutional theory, please see sections 2.2.4.2 'Introduction of neo-institutional theory' and 2.3.1.2 'Neo-institutional theory: the influence of institutional mechanisms'.

A number of scholars posit that a lack of strong social pressures is also likely to hinder OS progress (e.g. Blanco-Portela et al., 2017; Brandli et al., 2015; Ceulemans et al. 2014; Waas et al., 2012; Ferrer-Balas et al., 2008). Without great demands from different stakeholder groups in the society, a university may find almost no urgent reasons to change its status quo (Cortees, 2003). In this sector, Adams (2013) contends that the influences of students and sector professional bodies are limited. Stubbs et al. (2013) suggest that, if the social pressures are low, organizations may not be motivated to make the systemic and cultural transitions needed to promote OS.

From the neo-institutional perspective, the absence or inadequate presence of different institutional mechanisms may become part of the external institutional barriers to OS in universities. If institutional influences were lacking, inappropriate or contending, OS engagement might be more symbolic (and superficial) than substantive, especially when the pragmatic benefits of such engagement were not readily visible to organizations (Chang and Deegan, 2010; Bebbington, et al., 2009; Aguinis and Glavas, 2012). Organizations are not likely to truly embrace sustainability-related initiatives when the relevant social institutional contexts are weak or absent. In other words, unfavorable or insufficient institutional conditions and arrangements, including the actions and influences of pressure groups, media, consumers, professional associations and the general public, may constrain and even undermine the development of sustainability-related activities (Amaeshi, et al., 2016; Campbell, 2007; Deakin and Whittaker, 2007; McWilliams and Siegel, 2001). Hence, a lack of adequate institutional pressures could partly explain why OS transformation is difficult and sustainability is not completely incorporated into organizational systems (Chang and Deegan, 2010).

The global spread of the COVID-19 pandemic has profound and complex influences on universities' operations in general and OS in particular. The recent literature shows concerns over the increased economic pressure (caused by the COVID crisis) on higher education institutions. Much of the emphasis has been on the possible decrease in the number of overseas students. Researchers also note the potential income reductions from fewer domestic students, decreased research activities, and reduced incomes from catering, student housing and conferencing (Bolton and Hubble, 2020). It is estimated that, in the long term, the total losses arising from COVID-19 in the UK higher education sector would be about £11 billion. This pandemic has become a serious threat to the university sector and 13 higher education institutions in the UK may face the potential danger of insolvency if no government bailout is provided (Institute for Fiscal Studies, 2020). These mounting financial pressures could severely affect OS-related financial and human resources.

Moreover, COVID-19 has led to a significant increase in medical and domestic waste, which in turn could result in increased environmental damage (You et al., 2020). All kinds of virus infection protective devices, such as face coverings, plastic gloves and hand sanitizers, are being extensively used, adding to the volume of healthcare and safety waste. The irresponsible disposal of such waste causes further environmental degradation (Rume and Islam, 2020; Singh et al., 2020; Zambrano-Monserrate et al., 2020) within and around university campuses. Moreover, the increased household waste has given rise to soil, water and air pollution directly or indirectly, in particular as a result of the boom in internet shopping for domestic deliveries (Rume and Islam, 2020)[4]. Although some research has been carried out on identifying barriers, scholars point out that there is a need for more in-depth empirical studies to comprehensively examine these issues with detailed analysis and discussion in the context of universities (Blanco-Portela et al., 2017; Ceulemans et al., 2014), particularly through direct engagement with the participants during interviews.

On the basis of the literature review above, the table below presents the main social institutional-related barriers to OS progress. The relevant literature discussing these topics is also included.

Table 2.3 The summary of relevant literature regarding the social institutional-related barriers to OS progress

Social institutional-related barriers	Authors from literature

[4] Apart from the negative impacts, the researcher also considers some positive influences of COVID-19, which will be explored in 5.4.2. 'Contributions to and recommendations for practice'.

Insufficient or inadequate legal and governmental coercion	Alotaibi, et al., 2019; Blanco-Portela et al., 2018; Ávila et al., 2019; Wijethilake et al., 2017; Leal Filho et al., 2017; Brandli et al., 2015; Leal Filho et al., 2015; Waas et al., 2012; Dahle and Neumayer 2001; Chang and Deegan, 2010; Sourani and Sohail, 2011; Velazquez et al., 2005.
Limited social pressures from non-governmental stakeholders	Blanco-Portela et al., 2017; Brandli et al., 2015; Ceulemans et al. 2014; Adams, 2013; Waas et al., 2012; Dahle and Neumayer, 2001; Stubbs, et al., 2013; Aguinis and Glavas, 2012; Ferrer-Balas et al., 2008; Chang and Deegan, 2010; Bebbington, et al., 2009; Campbell, 2007.
The main negative impacts of COVID 19 on OS	Bolton and Hubble, 2020; Institute for Fiscal Studies, 2020; You et al., 2020; Rume and Islam, 2020; Singh et al., 2020; Zambrano-Monserrate et al., 2020; Fadare and Okoffo, 2020.

2.5 The research gaps identified in the existing literature

The researcher identified several gaps in the prior literature. Firstly, although legitimacy theory has been widely used within the field of sustainability research, it is not without its critics. Deegan (2014, p. 265) criticizes that the previous application of legitimacy theory in sustainability research "tends to focus on society at large" and does not examine "particular groups within society". He points out "proponents of legitimacy theory often talk about 'society' and compliance with the expectations of society […] this provides poor resolution given that the society is clearly made up of various groups having unequal power or ability to influence the activities of other groups". In a similar vein, Maughan and O'Dwyer (2010, p. 4) stress that many sustainability-related studies, utilizing legitimacy theory, "portray this external audience as a homogenous group (O'Dwyer, 2002). While such a broad theoretical perspective can provide an innovative perspective in an embryonic field of study it can become progressively less insightful as the field develops (Unerman, 2008)".

Moreover, Crossley et al. (2021) point out that there are few empirical studies relating to the use of substantive and symbolic legitimation approaches (Ashforth and Gibbs, 1990) within operational sustainability research generally, and they are almost non-existent with respect to higher education institutions' OS. The limited prior empirical sustainability studies examining the use of legitimacy management strategies (Ashforth and Gibbs, 1990) are mainly found in analyzing large publicly traded corporations (Crossley et al., 2021), rather than public sector organizations, especially public higher education institutions. These studies are largely concerned with private companies' external social/environmental disclosure (reporting) practices (instead of actual internal operational sustainability practices). Considering the unique characteristics of public universities in England (see '2.2.3 Research on operational sustainability in universities'), whether findings from the adoption of substantive and symbolic legitimation approaches in publicly listed companies can be applied to public universities remains unclear, but important to understand. Ashforth and Gibbs' (1990) substantive and symbolic legitimacy management theoretical framework may offer new insights into the reasons why public universities engage in OS.

Secondly, while studies adopting neo-institutional theory have focused on analyzing private companies' sustainability practices (Juárez-Luis et al., 2018), there is a lack of empirical research examining the organizational rationales for OS engagement in public higher education institutions through neo-institutional perspectives. Complementary to strategic organizational legitimacy perspective, neo-institutional theory "expands the focus from the rational, resource-dependence perception common in sustainability-related literature... to a more subtle form, which is influenced by a mixture of [social] factors, more complex than deliberate managerial decision-making" (Bebbington et al., 2009, p. 592). Neo-institutional theory provides a differing lens to understand how various social institutional factors influence the rationales for sustainability commitment (Higgins and Larrinaga, 2014; Borgstedt et al., 2019). As argued by Bebbington et al. (2009, p. 589), "institutional approaches tend to move away from considering organizational activities as something managers purposely initiate to achieve carefully considered outcomes, and focus instead on the shaping effects of social pressure."

Thirdly, although some research has been carried out on identifying barriers to progressing university OS in theory, there is a lack of in-depth empirical investigations into these barriers in the university setting to examine the applicability and relevance of barrier-related concepts in practice (Blanco-Portela et al., 2017; Ceulemans et al., 2014). More engagement based studies are needed to emphasize the critical account of such impediments (Shiel and Williams, 2015).

2.6. Chapter summary

This chapter has critically reviewed the literature relevant to addressing the research objectives of exploring the rationales for and barriers to English public universities' OS. The examination of different but complementary perspectives of neo-institutional theory and legitimacy theory forms the underlying theoretical foundation for 'organizational rationales' (research question one). The synthesis of related sustainability literature provides a comprehensive conceptual framework for the issues of ‘barriers’ (research question two). This chapter has also highlighted several important but overlooked issues in the extant literature that this research intends to address.

Chapter Three: Research Methodology and Methods

3.1 Introduction

The previous chapter reviewed the theoretical perspectives and literature in relation to the study; this chapter discusses the research methodology and methods. It begins by explaining the researcher's ontological and epistemological positions in conducting this professional DBA study. Then the use of qualitative research is justified and the overall research design is outlined. The researcher subsequently examines data collection methods (i.e. a combination of semi-structured interviews and document analysis), followed by the purposive sampling strategy and the rationale for selecting research participants. The data collection process (particularly how the pilot study and main study were carried out) and the multiple data sources are also presented. After that, the researcher details the adoption of template analysis, with the assistance of NVivo software, as the method of analyzing data. The chapter then moves on to consider different research ethical issues and procedures. Finally, the researcher discusses the criteria to assess the quality of this study and various approaches to ensuring research quality.

3.2 The concepts of research methodology and research method

Research methodology and research method are essential elements of a social scientific study. These two different concepts are closely linked. The distinction between them is that methodology is broader than method. Research methodologies are concerned with the approaches (and their rationales) to the whole research process, from the ontological and epistemological stances to data gathering and analysis (Hussey and Hussey, 1997). Methods are guided/impacted by methodologies. On the other hand, research methods are specific ways or tools to collect and analyse data.

3.3 Ontological and epistemological positions in this research

The philosophical stances of researchers affect their orientation to academic work. Easterby-Smith et al. (2002, xi) stress that it is of great importance to understand the ontological and epistemological issues underlying social studies, “because the worldview of the researcher can influence both the selection of the methods and judgements about the quality and value of outcomes”. Hence, the design of all parts of any academic work seems to be directed by the philosophical positions taken (Creswell, 2009; Easterby-Smith et al., 2002).

3.3.1 Ontological considerations

Ontology is concerned with the study of being and the nature of social reality (Bryman, 2016). While different terms and ideas are adopted by different scholars researching methodological issues, according to Bryman (2016), the discussion on ontology is broadly characterized by the differences between objectivism and constructionism. An objectivist stance assumes that “social phenomena and the categories that people use in everyday discourse have an existence that is independent or separate from the social actors” (Bryman and Teevan, 2004, p. 16).

By contrast, constructionism acknowledges that, through interactions, social phenomena are continuously being constructed by social actors (Bryman, 2016). In this study, constructionism is the researcher’s ontological position. Constructionism implies that social phenomena and their meanings are the outcomes of the interactions among social actors (and the researcher), instead of being regarded as external to and separate from the construction of those actors involved (Bryman, 2016). Social constructions are developed from social actors’ behaviors and perceptions. “Social reality has a meaning for human beings and therefore human action is meaningful—that is, it has a meaning for them and they act on the basis of the meanings that they attribute to their acts and to the acts of others” (Bryman, 2012, p.

30). Constructionism also implies researchers' own accounts of the social phenomena are constructions (Bryman, 2016).

The aims of this research are to explore the rationales for English public universities' OS engagement and the barriers to advancing OS, through the eyes of key personnel who are directly involved in OS at a managerial level in different universities, and to understand their multiple views (see Gibbs, 2007). In this light, it should be noted that individuals' perceptions and experiences may be varied and change in different contexts and times (Eriksson and Kovalainen, 2008). Having briefly examined the main differences between objectivism and constructionism, it is noteworthy that these two ontological assumptions are not always in binary opposition. Some studies incorporate certain components of each ontological argument (Bryman, 2016).

3.3.2 Epistemological considerations

Epistemology concerns the nature of knowledge and is a philosophical stance on what is adequate and acceptable knowledge in a field (Bryman, 2016). Broadly speaking, one of the central questions here is the differences between positivism and interpretivism, although other epistemological positions exist (Bryman, 2016). One of the most crucial aspects in this regard is whether people, organizations and social phenomena should be researched using the same principles and models of studying natural sciences.

Positivism is an epistemological stance that assumes the natural scientific principles and approaches can and should be applied to research social reality and entities. The same types of methods of gathering and interpreting data should be adopted by both the natural and the social sciences (Bryman, 2016). Positivist epistemology asserts that researchers should develop and test hypotheses to explain and/or predict social phenomena/issues in order to create knowledge (Bryman, 2016; Burrell and Morgan, 1979).

Interpretivism, on the other hand, contends that people and social institutions are different from the objects of analysis of the natural sciences and researchers need more sensitive methods to investigate the unique characteristics of social actors. The main distinction is that, unlike the natural sciences' subject matters (e.g. atoms, gases, chemicals or metals), humans give meaning to events and their environment (Bryman, 2016). In this study, the researcher's epistemological stance towards the nature of knowledge is interpretivism; it encourages researchers to understand the social phenomena being studied by examining how the participants interpret those phenomena.

Interpretivism advocates that the social issues can be "understood from the point of view of the individuals who are directly involved in the activities which are to be studied" (Burrell and Morgan, 1979, p. 5). Instead of acting as an external, so-called 'objective' observer, a researcher should actively engage with the participants. Interpretivist epistemology argues that social phenomena are socially constructed; social actors give them subjective meaning and interpret them from their viewpoints and interests. This study recognizes that the subjective perceptions and experiences of managers about their universities' OS are pivotal to academic research. The researcher should gain access to the participants' viewpoints and interpret the issues under investigation from their perspectives.

Furthermore, there is a double interpretation: the participants' interpretations are also interpreted by the researcher(s) (Bryman, 2016). The findings of this study are influenced by the researcher's interpretations and emphases; the data reflect the interaction between the construction of the researcher and the construction of the participants (Gibbs, 2007). In this regard, the notion of 'reflexivity' is of crucial importance. Reflexivity highlights that the researcher plays an active role in the process of study and becomes an integral part of knowledge development. That is to say, researchers should be 'self-reflective' and acknowledge the influence of their values, beliefs and assumptions on the studies. However, it is worth mentioning that the differences between positivism and interpretivism should not be overstated, because they are not definitive and they may be better thought of as general tendencies (Bryman, 2016).

As a general orientation to the link between theoretical ideas and academic research, in the present study, the theory is basically the outcome of the research. Theoretical ideas are mainly derived from the empirical data instead of being formed prior to the data collection. However, the relationship between theories and social scientific studies, especially whether theories drive studies or whether theories are the outcomes of studies, is not clear cut. Largely, these different strategies represent general tendencies (Bryman, 2016). For instance, to some extent, the comprehensive and critical review of the existing literature broadly influenced the development of research issues, focuses and questions in this study.

3.4 Research design

A research design offers a framework for gathering and analyzing data. It also concerns the criteria which are used to evaluate academic studies (Bryman, 2016). Methodological and philosophical assumptions provide guidance when the researcher chooses the 'research strategy'. In relation to this research, it is important to understand that, in many cases, a research strategy relates to a decision concerning a choice between 'quantitative' and 'qualitative' studies (Bryman, 2016).

3.4.1 Quantitative research, qualitative research, and the approach adopted in this study

Quantitative research focuses on quantification in the process of gathering and analyzing data. It reflects the positivist, natural science model that emphasizes measuring and examining causal relationships between variables as well as verifying/falsifying hypotheses (Bryman, 2016). While many previous studies in this field adopted a quantitative research approach (Thomson, 2014), they are often limited by variables which are pre-hypothesized. Furthermore, prior quantitative studies (e.g. using a questionnaire survey method) may not offer depth and richness of the contextualized understanding about the perceptions and experiences of OS-related managers without directly engaging with them (see Bryman, 2016).

By contrast, qualitative research places emphasis on words rather than quantification when collecting and analyzing data. Often, it is guided by more constructionist and interpretivist positions (Bryman, 2016). A qualitative approach which is sensitive to the participants' interpretation of the social phenomena being examined may be adopted, if the researchers intend to understand the world views of particular social actors. In many cases, qualitative research focuses on the detailed description and rich social context, looking at the issues through the eyes of the people being researched, concepts and theories emerging from and grounded in data, and is flexible in its research procedures. Nevertheless, it is important to consider that the implied positivistic/quantitative and interpretive/qualitative differences are not hard-and-fast and the boundaries between these two main research strategies are not clear cut.

This DBA study employs a qualitative research approach, using a combination of semi-structured, open-ended interviews and document analysis. It focuses on complex, dynamic and under-explored issues - underlying reasons for universities to undertake OS activities and the main barriers to pushing OS forward and emphasizes the contexts of English public universities' OS. These make qualitative research an appropriate approach, in order to explore an in-depth understanding of different participants' individual perceptions and experiences in this research setting. The present research benefits from multi-levels of analysis. The central focus is on the university OS engagement (at the organizational level), and the organizational engagement is mainly understood through the perceptions and experiences of individual managers interviewed.

3.4.2 Overview of data collection methods

In this research, semi-structured interview was the main data collection method and document analysis was the additional, supporting data collection method. The researcher conducted semi-structured interviews with one experienced manager directly involved in OS of his or her organization, from each of 20 English public universities with differing organizational characteristics (i.e. a total of 20 interviews). Additionally, over 800 related internal and external documents available in the public domain were collected and analyzed. A pilot study was undertaken (including three semi-structured interviews and a number of key documents as data sources) prior to the main study (17 interviews and the complete analysis of 875 related documents). Semi-structured interviewing and document analysis are complementary to each other and help to improve the credibility of this research through the triangulation of data collection methods and data sources[5].

In terms of the advantages of this research design, first, it has a clear focus: interviewing a sufficient number of different experienced key organizational personnel who not only are directly involved in OS of their universities at a managerial level, but also have a deep understanding of the influences of relevant stakeholders and overall organizational (campus) operations. They seem to be the most relevant, appropriate and knowledgeable participants to answer the research questions in this study. By adopting such a focus, the researcher may gain in-depth insights rather than receive responses on a surface level.

Second, this design allows the researcher to examine diverse English public universities with varied organizational characteristics, so as to compare research results from differing settings and enhance empirical richness and research breadth.

---

[5] The merits of combing these two approaches will be discussed in detail in 3.5 ‘Data Collection’ and 3.8 ‘Research Quality’.

Moreover, such an extensive study, investigating a relatively large number of organizations, may enable broader theoretical elaboration and provide a stronger foundation for developing theoretical perspectives, as emergent theoretical ideas are grounded in multiple, varied but comparable evidence (Bryman, 2016).

Such a research design is widely adopted in qualitative studies (Bryman, 2016; Matthews and Ross, 2010). Turning to sustainability-related literature in the field of business management, many leading researchers have used similar research designs in different settings (e.g. Leung and Snell, 2017; Zhao and Patten, 2016; Usmani et al., 2020; O'Dwyer, 2003; Spence and Gray, 2007). Moreover, it is a popular research design for doctoral projects studying sustainability topics in business schools (e.g. Ivory, 2014; Gutierrez-Huerter O, 2016; O'Dochartaigh, 2014; Zhao, 2012).

3.4.3 Sample selection

This study focuses on English public universities as sample organizations. There are considerable differences in regulatory systems, political landscapes, economic conditions, cultures and historical backgrounds among the four devolved administrations in the UK (i.e. England, Scotland, Wales and Northern Ireland). These important variations may influence OS of universities in respective regions differently. In England, laws, regulations, government policies and strategies in relation to universities and their OS activities specifically apply to English universities, instead of higher education institutions in the other devolved territories. The focus on public universities in England as the sample area allows the researcher to compare the similarities and differences of a variety of universities in a relatively consistent way. While most English universities are publicly funded, there are a couple of relatively small private higher education institutions with degree-awarding power in England. The researcher also tried to approach the targeted participants from these organizations but access was not forthcoming.

The researcher applied a purposive sampling strategy to select participants (Bryman, 2016). Sampling in this study chose participants who are highly relevant to the research questions being posed and emphasized information depth and richness instead of statistical representativeness (Bryman, 2016; Silverman, 2006). Using purposive sampling, this study did not sample participants randomly. Instead, samples were chosen based on their appropriateness to the objectives of the investigation and answering the research questions (Bryman 2016).

Key organizational personnel who are directly involved in OS at a managerial level from a number of English public universities were selected as targeted interviewees. There are three reasons for the selection criteria. First, this study examines management issues regarding OS engagement. Hence, the most suitable respondents would be the staff directly responsible for such engagement at a managerial level (see Zhao, 2012; Belal and Owen, 2007). Second, the targeted managers should have a good understanding of their organizational campus operations. Third, all interviewees need to have extensive first-hand experience about different aspects of OS and the expectations and influences of diverse sustainability-related external and internal stakeholders.

English universities are hugely diverse. The Higher Education Funding Council England (2010) points out that the variability in the organizational size, age and type of estates and buildings, relative emphasis on research or teaching, and geographical location of campus are likely to affect higher education institutions' OS. Drawing upon insights from both universality-related literature (e.g. Henkel, 2000; Gumport, 2000) and sustainability-related literature (e.g. Jones, 2017, 2012; Hitchens et al., 2005; Gray et al., 1995), the following seven criteria are used in this research to select sample universities: the period of establishment, organizational size (indicated by the number of enrolled students), financial resources (annual income and different proportions of main sources of funding), age of estates, institutional emphasis (research or teaching oriented, main associations/memberships), type of campus (e.g.

London-based, other urban, suburban and/or rural), and geographical location (e.g. east, west, north, south or Midlands). Furthermore, the researcher must take important practical issues into account. Substantial efforts were put into negotiating the access. The details of all 20 interviewees, including the pilot study, and the detailed background information of the sample universities under study (interviewed) are presented in Table 3.1 and Table 3.2 respectively.

Table 3.1 Details of the interviewees

Interviewee	University	Position	Sustainability-related work experience	Gender
Pilot study				
1	1	Director of sustainability	over 20 years	male
2	2	Sustainability adviser (strategic)	over 10 years	female
3	3	Senior environmental officer	over 10 years	female
Main study				
4	4	Head of sustainability	over 20 years	male
5	5	Senior Environmental & Sustainability Officer	over 10 years	male
6	6	Environmental and Sustainability Manager	over 10 years	male
7	7	Sustainability Manager	over 10 years	male
8	8	Energy, Environment and Sustainability Manager	over 10 years	male
9	9	Environmental Manager	over 10 years	female
10	10	Sustainability Manager	over 10 years	male
11	11	Head of Environmental Sustainability	over 15 years	male
12	12	Head of Sustainability	over 20 years	male

13	13	Senior Energy & Sustainability Manager	Over 15 years	male
14	14	Head of Environmental Sustainability	over 20 years	female
15	15	Head of Energy and Sustainability	Over 15 years	male
16	16	Sustainability Manager	Over 10 years	female
17	17	Head of Environmental Sustainability	Over 20 years	female
18	18	Associate Director, Sustainable Operation	over 15 years	male
19	19	Director of Sustainability Development	over 25 years	male
20	20	Sustainability Manager	Over 10 years	male

Table 3.2 Contextual information of sample English universities (interviewed)

Universities	**period of establishment**	**size by enrollment**	**annual income (million GBP) (% research, tuition fee, funding body)**	**age of estate**	**membership**	**type of campus**	**geographical location**
Pilot study							
Uni 1	1940s	30,000-35000	500-800	relatively old	Russell Group	Urban and suburban	midlands
			20% 50% 15%				
Uni 2	1992	25,000-30,000	200-300	relatively new		Urban and suburban	north
			2% 75% 9%				
Uni 3	1992	20000-25,000	200-300	relatively new	University Alliance	Urban and suburban	south
			3% 70% 10%				
Main study							
Uni 4	1992	15,000-20,000	200-250	relatively new	University Alliance	Urban and suburban	south
			7% 70% 10%				

Uni 5	1992	25,000-30,000	200-300	relatively new		Urban and suburban	midlands
			2% 80% 7%				
Uni 6	post 2000	10,000	100-150	new	Million+	urban	south
			0.2% 75% 7%				
Uni 7	1992	15,000-20,000	150-200	relatively new		suburban	south
			3% 80% 7%				
Uni 8	1960s	10,000-15,000	150-200	relatively new		urban	midlands
			10% 70% 10%				
Uni 9	1992	20,000-25,000	150-200	relatively new		urban	west
			1% 70% 7%				
Uni 10	post 2000	5,000-10,000	50-100	new		rural	southwest
			2% 75% 6%				
Uni 11	19th century	10000-15000	300-400	Relatively old	Russell group	urban	greater London
			8% 58% 6%				
Uni 12	18th century	20000-25000	400-500	Relatively old	Russell group	urban	greater London
			22% 52% 14%				
Uni 13	19th century	15000-20000	350-450	old	Russell group	urban	southeast
			13% 10% 54%				
Uni 14	11th century	20000-25000	2000-2500	old	Russell group	urban	south
			40% 22% 14%				
Uni 15	1960s	25000-30000	600-700	relatively new	Russell group	Urban and suburban	midlands
			20% 50% 9%				
Uni 16	19th century	35000-40000	650-750	relatively old	Russell group	Urban and suburban	midlands
			21% 50% 11%				
Uni 17	19th century	40000-450000	1000	relatively old	Russell group	Urban and suburban	midlands
			28% 45% 12%				
Uni 18	post 2000	15000-20000	250-350	new		Urban	Greater London
			0.04% 77% 7%				
Uni 19	post 2000	10000-15000	100-150	new		Urban and suburban	southeast
			1% 76% 0.7%				
Uni 20	1992	20000-25000	150-250	Relatively new		urban	midlands

			1% 74% 7%				

Data source: sample universities' websites (2019)

With regard to selecting documents for analysis, the researcher used a purposive sampling strategy to strategically choose the university internal and external documents which are relevant to the research questions (see Bryman, 2016). This was done by detailed reviewing of OS-related documents/information on the websites of almost all public universities in England and a variety of key external sources. Care was taken to ensure that a range of different types of universities were selected.

The researcher collected document data from a wide range of highly relevant and important sources. Documents comprise external sources (e.g. essential information produced by relevant external stakeholders like legislator, different government authorities, university sector regulator, funding bodies, media, activist groups and students' unions) and internal sources (e.g. sustainability-related reports, OS-related strategies, policies and plans, universities' mission/vision/value statements, their annual reports, newsletters and other relevant information on universities' websites, etc.). It should be noted that internal (organizational) document data were not only gathered from all 20 interviewed sample universities but also from other English public universities, so as to better understand the research issues from a broader perspective. Documents gathered and analyzed are listed in the table below.

Table 3.3 Documents collected and analyzed in this study

Document type	**No. of documents**
Documents within universities (total)	815
University mission/vision/value statements	100
Annual reviews/reports/accounts	100
University sustainability policies/strategies	70

Sustainability governance structure/management information	80
Sustainability-related reports	60
Carbon and energy reduction plans/programmes	45
Waste and recycling management programmes/policies	30
Water reduction programmes/policies	30
Travel and transport programmes/policies	30
Building/construction management documents relating to OS	35
Biodiversity policies/programmes	25
Sustainable procurement policies/programs	25
Fair trade policies/programmes/information	25
Ethical investment and banking policies	25
Equality and diversity policies/programmes	35
Environmental management system and audit information	35
Sustainability engagement programmes	25
Local students' unions' programmes and websites	40
External documents (total)	60
Laws, government policies, guidance, programmes and reports	11
Media news, reports and rankings	12
People & Planet University sustainability league tables	6
Activist groups' programmes and websites	8
Consulting reports	3
Professional associations' documents, programmes and websites	10
National student unions' reports, programmes and websites	10
Total No. of documents	875

Using the present research design and strategically choosing sample universities and interviewees, the researcher seeks to identify the common and distinguishing elements that underpin OS and to make fine differences amongst institutions. Such research design and sampling also enable the researcher to develop a thorough understanding of research topics by gaining various managers' viewpoints about the rationales for and barriers to OS engagement from a relatively large number of English universities.

Limited empirical research has been undertaken on OS in English public universities' campus operations in the management literature. While some universities state they are the leaders of sustainability in the sector, make great achievements in OS, and become 'sustainable universities', the previous sustainability studies point out that what organizations claim may not fully reflect their actual performance and commitment to social and environmental development. In some instances, organizational claims about their sustainability-related good practice and progress may be self-serving and even misleading (Gray, 2010; Milne et al., 2009). Hence, universities' self-reported OS achievements were not considered as rigorous criteria for selecting sample organizations in this exploratory study.

Furthermore, there is a lack of widespread acceptance in terms of reliable external bench-marking systems or rankings to evaluate and compare complex, multifaceted OS performance among universities in England consistently and comprehensively (see Jones, 2012, 2017; An et al., 2017). For the majority of universities, social and environmental sustainability reporting is still at the early development stage (Ceulemans et al., 2015), and international sustainability reporting standards like the Global Reporting Initiative (GRI) are not often adopted by universities (An et al., 2017). For these reasons, without directly engaging with internal managers/key informants of the organizations, it is not rigorous to select so-called 'high-performing or top-ranked' and 'low-performing or poorly-rated' universities in this research setting.

There are different research designs in social scientific studies (Bryman 2016). As an alternative research design, a multiple case study (selecting several universities in England as in-depth case organizations) was considered, but the researcher decided that an in-depth case study design was not preferred for this research. Based on the exploratory nature and complexity of the research questions, a specific focus on the perceptions of managers with direct and deep OS involvement is appropriate. Nevertheless, many universities in England have a very limited number of personnel who not only possess extensive first-hand experience in managing OS but also have an overall understanding of how relevant stakeholders affect universities' OS and how universities interact with them. If the researcher were to adopt a multiple-case study approach, carrying out semi-structured interviews with a sufficient number of key organizational personnel satisfying the aforementioned sample selection criteria from only a few case organizations, the vast majority of medium and small English universities and even large universities with limited sustainability-related human resources would be excluded. That is to say, the complex research questions in this study, covering a wide range of different issues, might not be answered in a comprehensive manner by such a case study design. Additionally, in this DBA study, it was problematic to secure access to multiple case universities (particularly contrasting cases) and to interview a sufficient number of managers with relevant responsibilities and direct involvement in each case organization.

With regard to limitations of the chosen research design, the contextual description of several cases seems to be 'thicker' than that of each organization among the 20 sample universities. One of the strengths of case study design tends to be the intensive examination of the settings. To address this issue, Chapter Four 'Data Analysis and Findings', particularly 4.2 'Research context', provides detailed accounts of the OS activities of universities in England, the related stakeholder groups and their influences on OS, the relevant organizational characteristics of the sample universities and an analysis of how different organizational characteristics affect universities' OS.

All this pertinent background information helps enrich our contextual understanding of this study.

In summary, the research design is outlined to offer guidance for conducting this study during the whole research process (see the table below). Having discussed ontological, epistemological positions, qualitative research as the main approach, and the overall research design in this study (including sampling strategy and selection criteria), the researcher will examine the issues of data collection, data analysis, research ethics and research quality in detail in the following sections.

Table 3.4 Research design in this study

Research aims, objectives and research questions	
Ontological position	constructionism (Bryman 2016)
Epistemological position	interpretivism (Bryman, 2016)
Main research approach	qualitative research
Data collection methods	combination of semi-structured, open-ended interviews and document analysis
Sampling strategy	purposive sampling
Sample participants and organizations	one experienced key organizational personnel directly involved in OS at a managerial level, from each of 20 English public universities with different organizational characteristics
Data collection process	the pilot study and then the main study
Data sources	20 semi-structured, in-depth interviews and more than 800 external and internal documents

Data analysis methods	template analysis as the main method with the assistance of NVivo
Research ethics	followed Northumbria University Research Ethics and Governance guidance and procedures
Research quality	quality criteria: trustworthiness (Lincoln and Guba, 1985)
Approaches to ensuring research quality	triangulation, ‘thick description’, audit trial, researcher’s reflexivity and peer debriefing

3.5 Data collection

There are various qualitative research methods for collecting different sources of evidence (Bryman, 2016). In this study, semi-structured interview and document analysis were employed to gather data. These two methods are complementary and have their merits and limitations.

3.5.1 Semi-structured, open-ended interview

Semi-structured, open-ended interviewing has certain advantages. First, it is a flexible method. The researcher constructed an interview guide which was later tested and refined. The broad and open-ended interview questions were developed with a view to encouraging respondents to freely offer their own opinions, perceptions and experiences. Second, the interviews were directed by the researcher, in order to cover the main topics in the interview guide. Semi-structured interviewing provides some structure to support comparability across participants and universities (see Bryman 2016).

When designing the interview questions, the researcher tried to make them as comprehensible and clear to the interviewees as possible, and avoided using difficult or unfamiliar terms (no jargon). Guided by the research questions, the following main issues were emphasized in the interview questions:

- Understanding of sustainability, OS and the university's relevant practices
- Perceived reasons for the university to undertake OS activities
- Relevant stakeholder groups, their perceived expectations and influences
- Perceived barriers faced by the university

The researcher employed a progressive interview approach with a view to incorporating lessons learned from earlier interviews into the subsequent ones, deepening his understanding of the research issues and gaining new insights. The interviews ranged from 40 minutes to 72 minutes in duration (the average is about one hour), and were all recorded and then transcribed. With the respondents' agreement, notes were also taken to record the researcher's reflections in the interviews (e.g. respondents reactions to different questions, the relationship/interaction between the interviewee and the interviewer, etc.).

Each interview began with the researcher introducing himself, the research project, and confirmation/further explanation of the main research ethical issues. During the interview, the researcher listened attentively to what was said and how it was said. This indicates that the researcher was active but not intrusive (see Bryman, 2016). The researcher also gave the interviewees time to think and tolerated pauses. While the researcher avoided using leading questions, he tried to ask appropriate follow-up questions carefully and clarify questions clearly. At the end of each interview, the interviewee was provided the opportunity to make further comments/suggestions about the interview. After the interview, a thank you letter was sent to every interviewee by e-mail and the participant was invited to make contact with the researcher if he or she had any questions. Furthermore, the researcher crosschecked the transcriptions against the notes and relevant documents.

While efforts were made to conduct face-to-face interviews, telephone/Skype/Microsoft Teams (software) interviewing was used as the main method, mainly because of the spread of the COVID-19 pandemic and the preferences/requests of the research participants. Firstly, the COVID-19 pandemic broke out during the interview data collection. Almost all interviewees were required to work at home, making it logistically unfeasible to conduct face-to-face interviews. Therefore, the researcher had no choice but to undertake telephone/Skype//Microsoft Teams interviews with them. More importantly, in accordance with research ethical guidelines, it is the researcher's responsibility to ensure the health and safety of the interviewees and to avoid potential harm, stress, physical and physiological discomfort to participants. If the researcher had insisted on conducting face-to-face interviews during this period, they would have posed a potential threat to participants' health, and such requests would most probably have been rejected (even though the protective measures would have been taken). For these reasons, telephone interviewing is more appropriate than the face-to-face alternative in this study.

Secondly, during the communication preparing for interviews, many interviewees specifically mentioned that they preferred a telephone interview to a face-to-face one even before COVID-19. This was mainly because that phone interviewing gave flexibility in arranging participation times. In most universities, managers with OS-related responsibilities are very busy, so they may be forced to reschedule or even cancel booked interviews due to the fact that they have to deal with unplanned issues or urgent tasks at work. In fact, approximately 30% of the interviews were rescheduled by the interviewees (a number of them were rescheduled only one day beforehand). To avoid such inconvenience, many participants chose telephone interview as the preferred option to fit their busy and irregular work schedule.

When comparing face-to-face interviews and telephone interviews, Bryman (2016) argues that, during phone interviews, researchers cannot observe the body language of participants. However, he also notes that, in his own research using phone interviews, participants provided “expansive… comprehensive” responses, and there is little difference in interview data collected through phone interviews and face-to-face interviews” (p. 488). Similarly, Sturges and Hanrahan (2004, p. 113) found significant “similarities in the quantity, nature and depth of responses” between these two interviewing approaches.[6]

Irvine (2010) stresses that face-to-face interviewing is more useful in situations concerning sensitive personal information and topics. This research focuses on organizational management issues in a professional context and does not involve sensitive personal data. In fact, a growing number of leading scholars have used telephone interviewing as the main interview method to collect qualitative data (e.g. Glover et al. 2014; Sempik et al. 2007; Bryman et al. 2008) and particularly in sustainability-related qualitative PhD research (e.g. Gutierrez-Huerter O, 2016; O'Dochartaigh, 2014). Therefore, telephone interviewing is an appropriate and valuable interview data collection method for this DBA study.

Additionally, the targeted interviewees in this research were widely dispersed in England, especially in many different rural areas of the country. Given the various constraints, it was impractical to undertake these interviews mainly in person. Telephone /Skype/Microsoft Teams interviewing is suitable and effective when research participants are located in different regions (Bryman, 2016; Holt, 2010; Stephens, 2007).

To ensure the quality of remote interviews, the researcher adopted a number of techniques recommended by Irvine (2010). To mitigate the lack of body language

---

[6] Furthermore, Burnham et al. (2008, p. 234) downplay the limitations of phone interviewing, when compared with the face-to-face alternative, “... it is possible to exaggerate the extent that real rapport can be created in a one-hour [face-to-face] interview; indeed there is always the possibility of negative impressions”. In contrast, when answering questions by telephone, research participants may feel less distressed without the physical presence of the interviewer (Bryman, 2016). The researcher's own interviewing experience in this study also supports these comments.

observation, in undertaking and transcribing interviews, the researcher paid considerable attention to subtle verbal cues such as pause, silence, emphasis, intonation and laughter, etc. The focus and attention of both interviewees and interviewer were maintained by carrying out only one interview per day. The researcher also kept a reliable phone line and recording devices (three recorders). Moreover, he attended to the participants' needs regarding physical comfort throughout the interviews and tried to avoid 'speaker overlap' (Irvine, 2010).

Contacting the interviewees

This research seeks to understand the interviewees' individual perceptions and experiences instead of them speaking for their specific universities. Securing access to interviewees is a challenging and time-consuming process. The researcher adopted the following strategies to approach the selected interviewees: firstly, interviewees were approached via an approved Research Participant Invitation and Information letter sent by email. As discussed previously, many universities in England have been undertaking some OS activities for some time (Shiel and Williams, 2015; Waheed, 2017c). The participants' names, positions or contact information were obtained from the sample universities' websites, as the large majority of English universities, at the time of interviewing, have already provided such relevant information publicly.

Universities are expected to publicly list information regarding dedicated sustainability staff job titles/roles, contact methods and areas of sustainability responsibilities. As the influential ranking system concerning UK university sustainability engagement, the People & Planet University League pays attention to such information on universities' websites (People & Planet, 2019c). This could offer further explanation regarding why the researcher found it easy to access the relevant units/personnel on the majority of the universities' websites.

In the first email, the research participant invitation letter, reviewed and approved by Northumbria University, was sent to the potential interviewees. It briefly introduced the broad aim of the study. The researcher also tried to explain research ethical issues (anonymity, confidentiality, voluntary participation and no right or wrong answers, etc.) to the potential participants. If the targeted interviewees agreed to take part, in the second email, interviews were arranged at their convenience. The approved Research Participant Informed Consent Form was included for participants' review. Any potential participant who did not respond to the first email was contacted with the second e-mail research invitation approximately 10 days later and subsequently by phone a further week later.

In addition, the researcher provided the participants with the following two broad example interview questions in the email: (1) Why do English public universities in general or your university in particular engage in campus operational sustainability activities? (2) What, if any, are the barriers hindering the university from engaging in campus operational sustainability activities; why and how do these barriers affect such activities? Therefore, the participants could have basic ideas about the main direction of this research.

The full list of detailed interview questions enclosed in the appendices was not shared with the participants before the interviews. The researcher mentioned once in the email that if the interviewees had any questions/concerns about the interview procedure and research ethics, they could contact him for clarification. It should be noted that, prior to the interviews, limited information regarding the detailed interview questions was offered to the participants (Silverman, 2006) and the researcher did not actively explain the broad example interview questions to the interviewees, since these two questions were designed to be as comprehensible and clear as possible. "Let the informant provides information that he or she thinks is important" (Bernard, 2000, p. 195). The essential thing is to be able to hear what matters from the participant's perspective, rather than what the researcher wants to hear.

The aforementioned sampling criteria were used to select one interviewee from each university: the university personnel directly involved in OS at a managerial level, to ensure some degree of consistency. However, the researcher recognized that every university is unique, so the selection was not restricted by the potential interviewees' job titles. While the job titles vary, they have relatively comparable responsibilities for managing OS tasks and reporting to senior executives at their universities. In two cases, especially small institutions with limited resources for OS, a slightly more junior member was put forward in taking the relevant managerial responsibilities, making him or her the appropriate interviewee (to some extent, comparable with the participants in other sample universities). In spite of the variation, all interviewees have a good understanding of English university OS with at least ten years of relevant first-hand experience.

For the very small number of universities (mainly small specialist higher education institutions) that do not appear to disclose information about staff fully or partly working in OS-related roles on their websites (or they may not have such staff), the researcher sent enquiries to these organizations through multiple channels, attempting to identify the relevant potential interviewees. However, no access was obtained to these institutions. In addition to the managers with direct OS responsibilities, a number of Research Participant Invitation and Information letters were also sent to the related top executives at the sample universities. However, no access was gained to top management. As many interviewees indicated, the related top executives are extremely busy managing the whole university and have a broad range of duties. In many cases, OS is just a small part of their responsibilities; they often do not directly get involved in the daily management of these issues and they may not have a detailed understanding of the various stakeholders in this field and how the stakeholders influence OS (see 4.4.1.1 'organizational management/structure-related barriers' and

4.4.1.3 ‘cognition/organizational culture-related barriers’ for detailed analysis). Therefore, to some extent, the participants accessed might be the most knowledgeable and relevant for answering the research questions. Their perceptions and experiences are essential to practice and theory development in this study. Furthermore, the participants did provide their views and perceptions about top management’s attitudes and influences in this context, which helped the researcher develop a broader understanding of the research issues.

3.5.2 Document analysis

As a compliment to semi-structured interview, document analysis was also used in this study. The researcher gathered information from a large number of different documents which are primarily textual data. Bryman (2016, p. 341) contends that research merely utilizing the interview method may “entail much more fleeting contacts” and interviewing may provide limited insights in respect of organizational actions and motives. Bryman (2016) also argues that, when interacting with the interviewer, interviewees may act or respond less naturally. The researcher should also take into account factors such as the interviewees’ motivations and their awareness of their roles in the universities (Alvesson, 2003). In contrast, non-academic documents are not obtrusive (Bryman, 2016; Robson, 2002). The reasons for English higher education institutions and related constituents to produce these practice-based document data concerning OS are not for academic social studies directly. Hence, these internal and external document data have less reactive effects (Bowen, 2009).

Moreover, semi-structured interviews, combined with document analysis, help to achieve triangulation of multiple data sources, different methods and diverse perspectives. Notably, the documents produced by a variety of related stakeholders (e.g. the government authorities, activist groups, media, professional organizations and the universities themselves) offer different perspectives and broader insights into the rationales for and barriers to English universities' OS engagement. Last but not least, documents also offer useful background information and help to better contextualize the research issues being examined (Bowen, 2009).

The semi-structured interview was the main data collection method and document analysis was the additional, supporting data collection method to supplement the interviews. This study mainly focused on the interviewees' perceptions and experiences regarding the organizational rationales for and barriers to universities' OS engagement and tried to understand these issues from the interviewees' perspectives. Semi-structured interviews can capture the interviewees' viewpoints and interpretations of such social phenomena (Bryman, 2016). Document analysis was employed to enhance our understanding of the wider research context and achieve the triangulation of data collection methods and data sources. In addition, documents can help to clarify meaning and add depth to the study by supplementing the interview data (Flick, 1992). In this study, the researcher used document data to enrich the interviews. Although the majority of quotations presented in the analysis and findings chapter are from interviews, a smaller number of quotations from external and internal documents are also used to support and deepen the research findings.

In some cases, interview data and document data are related. Information from documents can be fed into the interviews and information from interviews can be useful for the document analysis. Before conducting the pilot study, the researcher collected and analyzed some key external and university internal documents, in order to develop the initial overall understanding of the research context and contributed to the design of interview questions to some extent. Prior to each interview, the researcher read key OS-related documents produced by that sample university (where the interviewee was working), in order to develop a good contextual understanding of that university's OS activities. Moreover, information gathered from documents can be integrated into the interview to illustrate a question or to clarify a statement made.

In some instances document data also assisted the researcher in highlighting a contradiction in the sense of “You have just mentioned... but in the university documents...”. When some interviewees talked about their universities’ OS achievements and were less critical about the OS practice and performance of the sector, the researcher mentioned some critical comments made in the documents produced by students, activist groups or the media relating to universities’ slow OS progress and even regressions. The researcher wanted to see how the interviewees reacted to the criticism. Sometimes, the interviewees explained that there were certain OS issues that still needed to be addressed/improved by the universities. Then the researcher could discuss these unsolved problems with the interviewees and explore these interesting topics further. For example, some interviewees described a series of actions their universities took to reduce the carbon emissions of their campus operations; the researcher pointed out that in their carbon management documents universities did not disclose how they actually drove down the scope 3 carbon emissions (which is a part of organizational carbon reduction and a difficult issue to address). Then the researcher observed the reactions of the interviewees and how they responded to him. In some instances, such conversations may lead to further discussions on interesting issues, such as the conflicts between protecting pragmatic organizational self-interest and benefiting the wider society and environment.

Documents, especially critical comments of external stakeholders, can help the researcher to develop a deeper understanding of the universities’ OS engagement. Some of these comments revealed that sustainability was not fully integrated into universities’ core operations and many OS-related practices were largely on an ‘ad hoc’ basis which might not lead to systemic sustainability changes. These views are also consistent with the existing literature on OS development of higher education institutions (Leal Filho et al., 2019; Aleixo et al., 2018; Avila et al. 2017).

The literature review helped the researcher identify the key external and internal stakeholder groups in relation to OS in higher education institutions. During the interviews, the participants also discussed some influential stakeholders and programmes. If the researcher was not aware of these actors and programmes, he then searched for them, adding to the understanding of the overall context and finding out how such information related to the research issues. For instance, some interviewees mentioned the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES), but it had been closed at the time of the interviewing. After the interviews, the researcher searched the information about this scheme and examined how it had influenced universities' OS. The central government, through CRCEES, developed a performance league table to evaluate and compare organizational carbon and energy reduction, affecting the reputation of universities to some extent. More importantly, CRCEES utilized financial tools (e.g. allowances) to incentivize universities by decreasing the operational costs for high performers in reducing carbon and energy and increasing the operating expenses for low performers. In some participants' perceptions, as a government initiative, CRCEES played a positive role in promoting carbon reduction in the university sector.

Document analysis is not without its limitations. Atkinson and Coffey (2011) contend that people write documents with a view to conveying an impression, and such an impression might be "favourable to the authors and those whom they represent.... They are likely to be written with prospective scrutiny by others in mind" (Bryman, 2012, p. 555). If researchers want to use documents as sources of analyzing organizational practices, they may need to examine them in the context in which they were developed. It is also prudent to cross-examine documents with other evidence. In this respect, interview data is complementary.

3.5.3 Pilot study and main study

Before the main study, the researcher chose a number of public universities in England as the potential sample contexts for a pilot study, using the same aforementioned sampling criteria and process of contacting participants. Research information and invitation letters were sent to one manager directly responsible for OS from each of the 10 selected universities by email. Three of them confirmed that they would like to participate. Between July 2019 and August 2019, the researcher undertook semi-structured interviews with these three managers (using the aforementioned interview methods and procedures) and gathered feedback, so as to test and revise interview questions, improve interview skills and enrich interviewing experience.[7]

The researcher also conducted a preliminary review of some key documents concerning OS in English universities, involving pilot sample universities' websites, document data developed by the government, funding providers, activist groups, media and professional bodies. By doing so, the researcher gained an overall understanding of OS development in the universities (more specifically, what issues are addressed and upon where efforts are focused, in this research context), with a view to facilitating the in-depth analysis and interpretation in the next stage. The researcher combined the results of the three pilot interviews and preliminary document analysis to develop ideas/approaches to refining data collection for the main study. Consequently, a few probing interview sub-questions were slightly simplified. Furthermore, template analysis was trialed in the pilot study.

After the pilot study, the main research involved undertaking and analyzing 17 open-ended, semi-structured interviews with key staff directly involved in OS from each of 17 English public universities with different organizational characteristics, and gathering and examining more than 800 internal and external documents, including documents from all the sample universities where managers were interviewed. These 17 interviews were conducted from August 2019 to September 2020.

---

[7] Please refer to the first three interviews in Table 3.3 Details of interviewees, for the pilot study interview information.

3.6 Data analysis

Template analysis was utilized in this research as the main method of analyzing the textual interview and document data, with the assistance of NVivo (the computer-assisted qualitative data analysis software).

3.6.1 Key concepts of template analysis

As a form of thematic analysis, template analysis can be defined as "a varied but related group of techniques for thematically organizing and analysing textual data. The essence of template analysis is that the researcher produces a list of codes ('template') representing themes identified in their textual data." (King, 2004, p. 256). This method is widely adopted by management and organizational research (King et al., 2018), including many Northumbria University business school PhD/DBA studies (e.g. Eziashi, 2017; Croney, 2016; Charity, 2010; Quan, 2007).

In this study, the relations among different themes were represented by the template in the form of a hierarchical structure to organize codes. Before discussing the process of analyzing data, it is necessary to clarify some key concepts used in template analysis, such as codes, themes and coding. According to King (2004, p. 257), "a code is a label attached to a section of text to index it as relating to a theme or issue in the data which the researcher has identified as important to his or her interpretation". "Themes are recurrent features of participants' accounts characterising particular perceptions and/or experiences that the researcher sees as relevant to their research question. Coding is the process of identifying themes in accounts and attaching labels (codes) to index them." (Brooks and King, 2014, p. 4).

Merits and limitations of template analysis

In terms of the advantages of template analysis, with some (but not too rigid) structure, it is a flexible approach which can handle a large data set. Moreover, template analysis is suitable for this constructionist and interpretative study as well as the research questions being posed (see King, 2004). With regard to its limitations, on the one hand, King (2012, 2004) points out that this data analysis method is not appropriate for studies combining quantitative and qualitative approaches. In template analysis, "the assumption that the frequency of a code in a particular text corresponds to its salience simply cannot be made" (King, 2004, p. 257). On the other hand, template analysis is problematic to research adopting radical relativist positions, for example, discourse analysis, partly because "the attaching of codes to segments of text would be seen by a discourse analyst as limiting the possibilities for fully exploring the diversities of meaning –and especially the ambiguities – in the way that language is used to construct reality" (King, 2004, p. 257).

3.6.2 Process of data analysis in this research

Before the formal data analysis, the verbatim transcription was undertaken by professional native English-speaking transcribers, with the support of verbatim proofreading by the researcher himself, so that the accuracy and completeness of the transcription could be ensured. In addition to the manifest content, both the researcher and the professional transcribers also focused on the relevant contexts and subtle verbal cues such as pause, silence, emphasis, intonation and laughter, etc., in order to gain a good understanding of the meaning of the data. In the course of proofreading the transcriptions, the researcher got close to the interview evidence and began to see similarities and differences among the accounts of various interviewees. He also started to develop some initial codes/categories from the data.

After carefully listening to the recordings several times and creating a general 'feel' for each interview (O'Dwyer, 2004), the researcher conducted line-by-line reading and annotation for every evidential source. The detailed analysis was facilitated by various analytical tools (O'Dwyer, 2004), including:

- The interview guide
- Recordings of interviews
- Transcripts of interviews
- Interview memos including the researcher’s self-reflection
- Related internal and external documents collected
- Research diary reflections
- Various contextual information
- Tables, diagrams and mind maps created in the data collection and analysis

The template analysis in this study consists of a series of interrelated steps. This study adopted the important characteristics of template analysis: hierarchical coding and parallel coding (Brooks and King, 2014; King 2004). In terms of hierarchical coding, in order to better analyze texts, and clarify and organize codes, a few general, overarching higher-order codes were developed to provide a broad overview of the structure and direction of the analysis. A higher-order code may comprise several detailed lower-order codes, offering focused and more specific insights, and allowing comparison within and between cases/data sources. In some cases, the researcher also employed a parallel coding approach, at the same level of the template, to classify the same segment of textual data to different codes where appropriate (Brooks and King, 2014; King 2004).

Template analysis usually begins with a few tentative priori themes (Brooks and King, 2014; King 2004). In this study, the researcher identified broad themes such as ‘rationales for English public universities’ OS engagement’ and ‘barriers to advancing OS’ before coding and used them as starting points for analysis. These priori themes are derived from research issues, research aims and questions. However, the researcher is fully aware that the priori themes are not fixed, and must have as few as possible. As the research progresses, if priori themes become irrelevant, the researcher can refine and change them, if necessary. Furthermore, the study should not be restricted to just priori themes. Instead, the researcher should always pay close attention to new themes which emerge out of the data and include them in the template, if appropriate (Brooks and King, 2014; King et al., 2018; King 2004).

A number of approaches were employed to ensure coding consistency: clarification of codes and their classifications, constant assessment and revision of the template, and continuous discussion of codes constructed as well as illustrative quotes with experienced researchers via peer debriefing. In addition to continuously developing a general picture of recurrent themes across different, unconnected data sources, it is also important to understand every participant's own unique perception and experience in a coherent manner. In this regard, it is useful to create a list of all the codes found in each interview transcript. Further, when analyzing data, the researcher should not be restricted to the initial research questions only; themes/issues that do not seem directly related to the initial research questions cannot be ignored.

3.6.3 Developing templates

Having collected and analyzed 12 interviews and around 500 documents, the tentative initial templates were developed. The researcher tried not to produce such templates too early, because they may have negatively affected his openness to the later interview and document analysis. As Brooks and King (2014) warn, if you do it too early, "you may become oversensitised to material that "fits" the existing template, whilst neglecting material less easily encompassed" (p. 7). O'Dwyer (2004) also stresses that the analysis must not be limited by the previous literature and the interview guide, and researchers must pay considerable attention to emerging themes from empirical evidence, with an open mind. Therefore, the initial template incorporated a number of new themes which emerged out of a range of data sources.

Template analysis is not a 'one-after-the-other' structure undertaken in a rigid, mechanical manner. After creating the initial templates, they were systematically applied to further data and revised. The methods of refining the templates include:

adding codes, deleting codes, changing the scope of codes, and changing classification, etc. (King, 2004; King et al., 2018). When researchers identify an issue in the text that is relevant to the research topic, but the existing codes do not address it, a new code needs to be added. For example, the addition in this analysis is the concept of 'cognition/organizational culture-related barriers' as a level-three code under the higher-level 'organizational-related barriers', containing a couple of lower-level codes that had originally appeared in other places in the template or were new. This showed the researcher's increasing understanding that 'cognition/organizational culture-related barriers' were key themes.

An originally defined code that appeared to represent a separate theme may be found to considerably overlap with other themes, and it may be removed at the conclusion of the template development process (King, 2004; King et al., 2018). In terms of changing the scope of codes, it is necessary to redefine a code at a higher or lower level if the definition of the code is either too wide or too narrow. With regard to changing classification, the researcher could reclassify a code as a sub-category of another higher-order code (King, 2004).

In the course of data analysis, modification of the template is an iterative process through constant revisions, and several versions of the templates were developed. Such revisions were continued for as long as seemed necessary until the researcher gained a comprehensive and in-depth understanding of the data gathered and the phenomenon being examined. The template analysis was carried out until there were few new themes emerging out of the data. All textual data were carefully and thoroughly coded as many times as possible before the template was developed into its final form**.** And then it was systematically applied to the full data set. The final template acted as guidance for data interpretation and presentation.

NVivo is a useful and efficient tool to help store, organize, code, search and visualize qualitative data. The researcher used NVivo to systematically record and display all broad/higher-order codes and detailed/lower-order codes at different levels, linking with the related segments of textual data in the original sources. With the support of NVivo, the researcher can quickly clarify, compare and contextualize data, and construct codes and templates.

For the initial round of data analysis, the researcher examined each interview and document individually. Having imported all the relevant interview transcripts and documents into NVivo, he conducted a line-by-line close reading of each data source carefully and thoroughly, from start to finish, developing the overall ideas of the research issues and each source. Then the same template analysis method, as explained above, was employed to analyze both interview and document data. The researcher conducted the initial coding for every interview transcript and document and developed some relevant detailed lower-order codes concerning the research topics. After that, the researcher started to integrate codes from both interview transcripts and documents and develop broad higher-order codes which consisted of more focused, specific lower-order codes. The template, including both broad higher-order codes and detailed lower-order codes, was gradually constructed as the analytical framework for the whole study. Within the NVivo system, the codes were linked to the extracts in the original transcripts and/or documents, so that the researcher could easily trace the data sources. The template analysis adopted in this study was a back-and-forth iterative process. Both interview (the main method) and document (the additional, supporting method) evidence was presented together (side by side) to support the themes that emerged from the data and provide for some corroboration of the research findings.

The interview data were largely relevant to research issues because interview questions were formulated around research questions. To some extent, the external and internal document data were less directly relevant, because the purposes of producing these documents were not for social science research. The researcher paid particular attention to the sections related to the organizational rationales for and barriers to OS engagement in various documents.

In this research, different types of documents (produced by different actors) emphasized different information. For instance, activist groups and the media were sometimes critical and challenged the status quo of universities' OS engagement; they did not think organizational self-interest-oriented business case rationales and incremental improvements in management and technical practices were sufficient. The government emphasized regulatory compliance and value for money (efficient use of public funding). Sector sustainability professional associations promoted win-win business case, 'do well by doing good' rationales and incremental changes, and only occasionally criticized universities' OS slow progress.

By contrast, some university internal documents simply described the rationales for undertaking OS-related activities, but they mainly explained organizational self-interest-centered motivations: reducing compliance risks, obtaining funding, saving costs, managing organizational reputation, attracting students and increasing tuition fee incomes. It seemed that universities' internal documents did not explore such pragmatic organizational motivations further. For example, they did not investigate whether such motivations were sufficient and appropriate to making substantive transformation towards OS or not. There was limited information on barriers to OS progress in university internal documents because these publicly available documents rarely disclosed the university's own problems, difficulties and negative news with regard to OS to the external audience. Therefore, the researcher needed to conduct semi-structured interviews (as the main data collection method) to examine complex organizational rationales and various barriers at a deep level.

The research indicated that universities' internal documents placed the emphasis on how much OS progress they made and pragmatic organizational self-interested rationales (Chapter Four). This is inconsistent with some critical comments made by some external stakeholders in their documents. These document data showed that some external stakeholders thought universities did not take their OS moral responsibilities seriously and make sufficient, substantive OS changes to their campus operations.

3.6.4 Interpretation of data and presentation of findings

During the analysis, the researcher tried to code the transcripts and documents and interpret the data. The researcher sought to "link the process of making sense of the data with the research questions", the extant literature and the theories he utilized to illuminate the research issues being examined (Bryman, 2016, p. 13). The interpretation of data involved several rounds of preparations in an iterative way to represent the research findings (O'Dwyer, 2004). Equipped with the aforementioned analytical tools, the researcher firstly developed an inclusive detailed description, integrating a broad range of contextual information relevant to various parts of the representation.

In the course of interpreting and presenting the data, the researcher continuously looked for new insights and viewed evidence from different perspectives. Therefore, considerable attention was paid to ambiguities, contradictions and conflicting perceptions in the data, to question and even challenge the main codes and the templates created (O'Dwyer, 2004). Such critical reassessment of the interpretation also helped the researcher better understand the research issues.

On the basis of this relatively descriptive account, a more focused, interpretive representation of the research findings was produced (O'Dwyer, 2004). Such interpretation was deepened and organized around a more coherent and pertinent analytical framework, as the study evolved and the researcher's understanding of the relationships between differing codes at various levels developed. A large number of direct long and/or short quotes from the interviews and documents were used to support the interpretation, enhance the trustworthiness of the research (Lincoln and

Guba, 1985) and enrich the contextualized "thick description" (Denzin, 1994, p. 505). Moreover, a number of tables were utilized to improve the presentation of research results.

The researcher developed the study findings using neo-institutional theory, legitimacy theory and relevant sustainability literature. Jemielniak and Ciesielska (2018) point out that qualitative studies are often not preconceptualized by the existing theories and literature prior to the data collection. In this study, such theoretical/conceptual framework and categorization are not pre-selected; instead, they emerged from the data collection and analysis. In fact, the researcher tried and changed different theoretical perspectives in this process, and this framework only emerged after the analysis of almost all the interviews and documents was completed. Once again, researchers must be aware of the potential problems with 'cherry picking' - only selecting the data which fit the theoretical framework. To address this issue, the researcher constantly searched for and considered alternative or competing evidence, themes and perspectives. The overview of the final template developed for this research is presented in the table below.

Table 3.5. Final template for this research

1. Rationales for universities' OS engagement	1.1. Social institutional influences	1.1.1 Coercive influences	1.1.1.1 Coercive influence of central and local government 1.1.1.2 Coercive influence of sector regulator
		1.1.2 Normative influences	1.1.2.1 Limited normative influence from students (activist groups and students' unions) 1.1.2.2 Limited normative influence from professional bodies

		1.1.3 Mimetic influences	1.1.3.1 Mimetic influences from peer universities' practice and performance 1.1.3.2 Peers' performance in league tables and media reinforced mimetic influence
	1.2 Legitimacy seeking and organizational self-interest	1.2.1 Instrumental motivations for organizational self-interest	Such pragmatic rationales emphasize win-win business case
		1.2.2 Maintaining legitimacy with different sources of legitimacy and benefiting organizational self-interest	1.2.2.1 Maintaining legitimacy with government and mitigating compliance risk, funding and saving cost 1.2.2.2 Maintaining legitimacy with students and managing organizational reputation, recruiting students and generating income 1.2.2.3 Maintaining legitimacy with media and the public and managing organizational reputation and recruiting students
		1.2.3 Consistency and conflict between	1.2.3.1 Limited substantive actions when normative sustainability demands consistent with organizational self-interest

		seeking organizational self-interest and moral legitimacy	1.2.3.2 Compromises (symbolic engagement) when confronting conflicts between pragmatic interests and moral legitimacy 1.2.3.2.1 Conflicts between moral legitimacy and organizational expansion, symbolic legitimation 1.2.3.2.2 Conflicts between moral legitimacy and organizational reputation, symbolic legitimation 1.2.3.2.3 Conflicts between moral legitimacy and investment/saving cost, symbolic legitimation 1.2.3.2.4 Symbolic legitimacy management and lack of substantive OS changes
2. Barriers to OS progress	2.1 Organizational -related barriers	2.1.1 Organizational management/s tructure-relate d barriers	2.1.1.1 Inconsistency between OS and organizational short-term economic interests 2.1.1.2 OS is not universities' strategic priority 2.1.1.3 Insufficient support from senior management
		2.1.2	2.1.2.1 Insufficient financial resources

		Organizational resource/capacity-related barriers	2.1.2.2 Lack of dedicated human resources 2.1.2.3 Other organizational members' lack of time to participate
		2.1.3 Cognition/organizational culture-related barriers	2.1.3.1 Lack of awareness and knowledge about OS among different organizational members 2.1.3.2 Silo mentality
	2.2 Social institutional-related barriers	2.2.1 Insufficient or inadequate legal and governmental coercion	2.2.1.1 Weakening coercive pressure of central and local government 2.2.1.2 The decline of coercive influence from the sector regulator
		2.2.2 Varied and limited social (non-government) pressures	2.2.2.1 Insufficient pressures from students and students unions 2.2.2.2 The decline of the influence of league tables 2.2.2.3 Limited influence of professional associations
		2.2.3 Negative	2.2.3.1 Reduction in OS funding as a result of

		impacts of the COVID-19 crisis	increasing financial pressures 2.2.3.2 New sustainability challenges

3.7 Research ethics

Using the Northumbria University Research Ethics and Governance Handbook as guidance, the researcher took account of a range of ethical issues such as informed consent, confidentiality and anonymity, data protection and storage security, potential harm or stress to participants, integrity and transparency, health and safety, and conflicts of interests, etc. (see also Bryman, 2016). The researcher went through the proper procedures to obtain Northumbria University's ethical approval prior to the data collection. This study seeks to understand the interviewees' individual perceptions and personal reflections instead of them speaking for their specific universities. In addition, all documents collected are publicly available.

After gaining research ethics approval, requests were sent to the targeted interviewees in the selected sample universities, along with the invitation and information letter, the informed consent form and the interview guide. Please refer to Appendix 1, 2 and 3 for these three documents. Participation in the interview was voluntary. Interviewees were reminded that they had the right to withdraw at any time, without having to give a reason. The participants were free not to answer any questions. Their informed consent and written permission were obtained. Before each interview, the researcher asked the respondent's permission about whether the researcher could record the interviews and take notes. All the participants and sample organizations were kept confidential and anonymous.

The interviews are open-ended and semi-structured, and there are no right or wrong answers. The participants were given the opportunity to ask questions about this research and had their questions answered satisfactorily. Interview data were stored securely. In case the participants had any concerns, the procedures governed by Northumbria University's research ethics and points of contact were provided. The researcher made no payment or remuneration to participants.

3.8 Research quality

There are different standards and terms for the assessment of qualitative research (Bryman 2016). Lincoln and Guba (1985) suggest that trustworthiness can be utilized as the criterion to evaluate the research quality of a qualitative study. Establishing trustworthiness entails developing credibility, transferability, dependability and conformability (Lincoln and Guba, 1985). Credibility focuses on the reasonableness or believability of the research findings. As a result, a credible empirical account must be provided, and it must take into consideration the amount and type of evidence utilized. The researcher needs to ensure that study findings and the research respondents' viewpoints and experiences are well aligned (Bryman, 2016). Transferability refers to the extent to which the particular findings of a study can be applied to different contexts. While dependability addresses the issue of "the findings likely to apply at other times?" (Bryman, 2016, p. 49), confirmability means that the researcher "has not overtly allowed personal values or theoretical inclinations manifestly to sway the conduct of the research and the findings deriving from it" (Bryman, 2016, p. 393).

In order to ensure trustworthiness, the researcher used a range of methods, including triangulation, 'thick description', audit trial, researcher's reflexivity and peer debriefing (Lincoln and Guba, 1985; Bryman, 2016; Tracy, 2010). The research used numerous direct quotations from a variety of interview and document data as evidence supporting the themes and theoretical concepts developed out of the data. Multiple data collection methods were adopted to undertake differing lines of inquiry and examine issues from varied perspectives. While triangulation helps ensure the overall trustworthiness of the study, it is especially useful to enhance credibility. Through triangulation of multiple methods and data sources, this study shows a ‘fit’ between participants’ experiences and perceptions and the researcher’s interpretation of them (Nowell et al., 2017; Bryman, 2016; Tobin and Begley, 2004; Lincoln and Guba, 1985).

The findings of qualitative research represent “one of a number of possible representations… of social reality” (Bryman et al., 2008, p. 383). Many scholars argue that it is not appropriate for interpretivist qualitative studies to be assessed by statistical generalization. Instead, the transferability depends on “the cogency of the theoretical reasoning” (Mitchell, 1983, p. 207) and how sufficient and appropriate the details in the research findings are for readers in similar circumstances to relate to their own decision-making (Bassey, 1981). In this regard, ‘thick description’ of qualitative studies refers to rich accounts of the details of research issues and settings. It provides readers with “a database for making judgment about” the transferability of findings to different social contexts (Bryman 2016, p. 392).

In addition, efforts were made to make the whole process of this DBA study as transparent as possible; the researcher also kept a complete and detailed record of the procedures of conducting research, so that all relevant information can be used as the basis of the audit trail for other researchers. All steps/aspects of the research process must be well documented in a way that is accessible. While an audit trial helps enhance the overall trustworthiness of the study, it is particularly useful to improve dependability. Furthermore, peer debriefing sessions were undertaken between the researcher and his peers, especially highly experienced scholars in the related field.

Apart from the outside scrutiny, self-critical reflection on every aspect of the research process was also undertaken to make sure that the researcher’s personal values and theoretical perspectives do not excessively affect the study - confirmability (Nowell et al., 2017; Bryman, 2016; Tobin and Begley, 2004; Lincoln and Guba, 1985). Researchers need to be reflective about the implications of their approaches, biases and values for the knowledge they generate.

3.9 The researcher's reflectivity

Reflexivity means examining the researcher's own beliefs, values, motives, judgments and practices throughout the research journey and how they may have affected the study. A reflexive researcher constantly questions his or her own taken for granted assumptions. It requires openness and an acceptance that the researcher is an essential part of the study (Finlay 1998). Self-critique is important to reflexive accounts, which challenge and potentially transform underlying beliefs and assumptions. In a reflexive process, the researcher is forced to re-examine his or her stance in regard to ontology, epistemology, methodology, theory, research process, participants and self.

The researchers' social constructionist and interpretivist positions guided him in understanding the social reality and knowledge for this study. The researcher influenced this study through his research focuses, interview questions and his behaviour such as the interactions with the participants during the interviews. In order for the readers to understand the issues being studied, it is useful to describe the researcher's sustainability position and how he understands the process of research. The researcher considers himself passionate about sustainability issues. He is very interested in various environmental/social topics discussed in the media and he tries to perform his daily actions in an environmentally friendly and socially responsible manner. For example, his wife and he do not own/drive a car; he tries to buy fair trade or organic food/products, where possible. However, he does not get involved in radical activities such as protests. He generally respects that people can have various views on sustainability and the same OS-related issue may have different interpretations by different people in different contexts at different times. If people's opinions are inconsistent with the researcher's, he tries to see things from others' perspectives. In the context of this study, the researcher's goal is to thoroughly examine and interpret the data collected through the reality constructed by the key personnel managing OS activities in English public universities, rather than to claim to be independent or objective.

In addition to the literature review and personal motivation, the researcher's professional interest also influenced the choices of research issues and focuses. The researcher previously helped a medium-sized Chinese company develop its sustainability reports and undertook some OS-related studies in the context of Scottish universities.

In terms of methodological reflexivity, researchers should re-examine their approaches to take into consideration of factors like ethics, power relations or language use. The researcher was concerned about the question of 'are my questions meaningful to the participants?' during the research process. When designing the interview questions, he tried to make them as comprehensible to the interviewees as possible and avoided using difficult or unfamiliar terms and concepts (no jargon). For example, there were no words such as coercive, normative and mimetic influences, legitimacy or symbolic and substantive activities, etc, in the interview questions. Conducting the pilot study also increased the researcher's confidence in the interview questions and ability in undertaking interviews.

During the interview process, the researcher found that withholding his own viewpoint was a good learning experience for him. For instance, when the participants held contrary views to the researcher's with regard to OS, the researcher did not argue with them and let them speak freely. However, during the pilot interviews, the researcher might have exhibited more empathy and approval to participants who had similar strong sustainability viewpoints. Therefore, the researcher examined the pilot interviews with caution and, in the final thesis, did not present any illustrative quotations from the pilot interviews to support the research findings. In the main study interviews, the researcher tried to use a non-judgemental, relatively neutral tone to conduct interviews and held back his opinions regarding OS issues with the interviewees, so that their views relating to the rationales for and barriers to universities' OS were not excessively affected by the researcher.

On the one hand, if the interviewees engaged in 'positive impression management' (Alvesson, 2003), such as uncritically praised his or her organizational OS-related achievements and did the 'public relations' talks for their universities, the researcher had to redirect the interviews to focus on the exploration of the research issues. The researcher scrutinized such information vis-à-vis the accounts of the other empirical evidence. On the other hand, the interviewees sometimes tried to avoid saying something negative about their organizational OS engagement, despite the researcher's assurances that their comments would be kept completely confidential. While interviewing respondents, the researcher was aware that some would be concerned that the outcome of the research might put their professional identities into question. To address this problem, the researcher concentrated on building trust with the participants and highlighting the research ethics, which stated that no information gathered (with their identities) would be shared with their universities.

As a practical tool, following an interview, the researcher kept a research journal with notes about interesting aspects of the interview and incidents that he noticed. This journal allowed the researcher to be reflexive of his preconceptions and biases. He followed the suggestions of Haynes (2012) and conducted the following reflexive exercises in the whole research process:

- In the research journal, the researcher wrote down theoretical assumptions and presuppositions regarding the issues being studied and revisited them during the process of research, noting how they had changed;
- Considered whether or how these changes had revised the research focuses, questions or findings;
- Kept notes of ideas and feelings concerning the research process;

- Noted down observations, interactions, incidents, emotions and responses;
- Listened to tape recordings of interviews and noted how the researcher's presence or interaction influenced the process;
- Discussed and evaluated all these relevant issues and the research process with senior researchers in the related field.

At the data analysis and interpretation stage, reflexivity also involves looking at the issues through different theoretical perspectives, critically examining data and exploring possible differing interpretations of the evidence, ensuring triangulation through multiple data sources and collection methods, etc. Using a critical and reflexive lens enables researchers to develop more nuanced and possibly more trustworthy emerging knowledge. For instance, in analyzing data, the researcher had always been sensitive to the questions: Is this the interviewee's perception or my (the researcher's) perception? Is this the interviewee's interpretation or my interpretation? Despite the researcher's efforts to ensure that the participants' voices were heard and his voice did not distort the participants' voices, the researcher interpreted the data through the lens of his own beliefs and cultural values.

To avoid indulging any biases the researcher could have, a conscious effort was made not to judge the participants and their opinions as 'right' or 'wrong'. An effort was also made not to try to 'fit' the data to the desired responses to answer the research questions. For example, the researcher was careful of the potential dangers of 'cherry picking' - only choosing the empirical evidence that fits the theoretical frameworks adopted. Instead, the alternative or competing evidence/themes which did not seem to support the chosen framework and differing theoretical perspectives were also considered (O'Dwyer, 2004; Alvesson, 2003). In this light, the researcher constantly searched for new insights and analyzed the data from different and even contrasting perspectives. Moreover, the researcher focused attention on inconsistencies, ambiguities, and contending views and experiences in the evidence (O'Dwyer, 2004), questioning and even challenging the themes and the templates developed.

Additionally, the research used numerous direct quotations from a variety of different interview and document data as evidence. Multiple data collection methods (i.e. semi-structured interview and document analysis) were adopted to undertake differing lines of enquiry and cross-examine issues under investigation. By doing so, the credibility of the findings and interpretation could be enhanced and biases could be mitigated (Bryman, 2016; Lincoln and Guba, 1985).

To ensure the researcher followed the argumentation of the interviewees, another approach is looking for contradictions among different participants' accounts and looking for the inconsistency between interviewees' perceptions and the literature. For instance, while the previous literature considers that a lack of sustainability policies, committees, working groups and offices acts as a barrier (Avila et al., 2019; Avila et al., 2017), they were less mentioned by the participants at the time of the interviews. This may be partly due to the fact that those studies are not English public universities-specific; many sample universities in this context have already developed these structures. However, one would argue that, even if universities adopted these measures, they do not seem to be sufficient or effective enough to make substantive progress to sustainability and lead to systemic changes, without deeply understanding the complex rationales and the barriers and addressing them in a substantive way.

3.10 Chapter summary

This chapter has provided a detailed description of the researcher's ontological (constructionism) and epistemological (interpretivism) positions, research methodology and research design that aim to answer the research questions. The research is qualitative in nature and purposive sampling was employed. Key organizational personnel who are directly involved in OS at a managerial level from a range of public universities in England with different organizational characteristics were chosen as targeted interviewees. Data were collected from 20 semi-structured in-depth interviews and more than 800 internal and external documents. The interview transcripts and documents were analyzed using template analysis with the support of NVivo software. The data collection and analysis methods adopted are consistent with the ontological and epistemological grounding of this research.

The chosen research design allows the researcher to collect rich and in-depth data that facilitate interpretation of the underlying meaning of the interview accounts and documents. Ethical issues in this research project and the methods used to ensure high research quality were also described in this chapter. Keeping the research methodology and methods in mind, an overview of the research context and an in-depth analysis of empirical data in this DBA study will be presented in the next chapter.

Chapter Four: Data analysis and research findings

4.1 Introduction

This chapter aims to address the research issues (rationales and barriers) through a detailed analysis of the data collected. This chapter comprises three main parts. Firstly, an overview of the research context is provided. Secondly, the analysis explores the ‘outside-in’ rationale: social institutional (mainly external) influences combine with the ‘inside-out’ rationale: the pursuit of legitimacy interacts with seeking organizational self-interest. These two perspectives are different but complementary. Thirdly, the results of the interview and document analysis examining organizational and social institutional-related barriers are presented. The analysis and findings are supported by substantial evidence from empirical data and framed in light of the relevant theories and literature. The next section will introduce the context in which this research took place.

4.2 Research context

This qualitative DBA study recognizes the importance of the contextual understanding of organizational decision-making and behavior. English public universities’ rationales for and barriers to OS must be understood in context. This section provides an overview of the research setting, particularly diverse stakeholders in relation to OS in the English university sector (or ‘field participants’ from a neo-institutional perspective).

The UK legislator and government authorities have established a number of laws and regulations in different areas of sustainability, directly impacting universities’ OS. For instance, in 2008 the British Parliament introduced the Climate Change Act. This Act established an 80% reduction in greenhouse gas emissions target for 2050 compared to the 1990 baseline in the UK, including England. Recently, a new ambitious 2050 ‘net zero’ target has been set: 100% below 1990 levels (Climate Change Act 2050 Target Amendment, 2019). Under the Climate Change Act, a dedicated independent non-departmental public body, the Committee on Climate Change (CCC), was formed to advise the government. The CCC also recommended interim targets to reduce emissions (CCC, 2019). Nevertheless, two thirds of British universities were not on track to meet such reduction targets (Lightfoot, 2019). As another example of relevant governmental influence, universities should meet the relevant requirements and standards of building regulations and planning permissions, which place emphasis on improving energy use and protecting the environment. Since 2008, by law, English university public buildings have been required to record and show Display Energy Certificates, indicating their energy usage.

In addition to regulations, the UK government has provided funding to incentivize universities to embark on OS activities. For instance, Salix Finance Ltd is a non-profit company funded by the government for public sector energy improvement. Salix Finance Ltd provides interest-free loans and revolving funding to English public universities to improve energy efficiency. Local councils also have some sustainability-related funding opportunities.

The UK Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES, formerly the Carbon Reduction Commitment) - a mandatory trading scheme - was applied to large UK business and public organizations, including English public universities. It used to have direct financial and reputational impacts on the universities through rewards and penalties such as revenue recycling payments from the government and published performance league tables. However, from the end of the 2018-19 compliance year, the CRCEES has been replaced by the increase in Climate Change Levy - a tax on the energy usage of organizations (e.g. natural gas, electricity and petroleum, etc.).

As the former higher education sector regulator, the Higher Education Funding Council for England (HEFCE) used to play an active and vital part in leading English universities to adopt OS-related practice and have OS accountability. In 2010, HEFCE, along with other related bodies, launched the Carbon Reduction Strategy and tied public funding for universities to sustainability targets and requirements. However, in recent years, there have been substantial changes in English higher education regulators and their strategies/policies. In 2018, HEFCE was taken over by the Office for Students (OfS), coupled with significant university state funding cuts.

Sustainability-related professional bodies in this sector support universities' OS initiatives. For example, the Environmental Association for Universities and Colleges (EAUC) is a not-for-profit member based charity, set up in 1996 to promote sustainability in the higher and further education sector in the UK and Ireland. EAUC is governed by senior sustainability practitioners and leaders from member universities or colleges. EAUC's headquarters are based at the University of Gloucestershire, England. The Green Gown Awards have been established and administered by EAUC since 2004, recognizing the best sustainability practices of higher and further education institutions. In addition, the Sustainability Leadership Scorecard was developed by EAUC, the Association of University Directors of Estates (AUDE) and Arup (a professional consulting group) to assess the sustainability performance of universities and colleges.

As influential stakeholders, relevant sustainability activist groups take actions to facilitate OS at universities in England. Established in 1969, People & Planet is one of the largest student campaigning organizations advocating sustainability in UK universities. Building on the Green League published in 2007, People & Planet launched its University League – an annual sustainability league table of UK universities ranked by their environmental and social performance (largely based on OS). The People & Planet sustainability University League is also regularly published by traditional ('mainstream') media such as the Guardian, drawing attention from the public. People & Planet's headquarters are located in Oxford, England. Moreover, the National Union of Students (NUS) and local students' unions at different English universities play active roles in promoting OS by initiating a number of sustainability programmes and campaigns. The OS-related main events (as a brief timeline) in the English university sector are presented in the table below.

Table 4.1 The OS-related main events in the English university sector

Time	Event
1996	Environmental Association for Universities and Colleges (EAUC) was set up to promote sustainability in the higher and further education sector in the UK and Ireland.
1997	Third World First changed its name to People & Planet - the UK largest sustainability student network campaigning group.
2004	UK government established Salix Finance ltd.
2007	UK government introduced mandatory Carbon Reduction Commitment Energy Efficiency Scheme and performance league table.
	People & Planet published the first UK university sector Green League published (later renamed as University League).
2008	British Parliament introduced the Climate Change Act and this Act established an 80% reduction in greenhouse gas emissions target for 2050 compared to the 1990 baseline in the UK.
2010	HEFCE launched the English higher education sector Carbon Reduction Strategy and tied public funding for universities with sustainability targets and requirements.
2014	There was disagreement between People & Planet and some universities in terms of its University League ranking criteria.
2015	The Sustainable Development Goals (SDGs) were adopted by United Nations Member States and supported by English

	universities.
2018	HEFCE was taken over by Office for Students (OfS).
2019	Climate Change Act 2050 carbon reduction target was amended. A new ambitious 2050 'net zero' target has been set: 100% below 1990 levels.
	Various media and activist groups disclosed that two thirds of British universities were not on track to meet such reduction targets.
	The UK government closed mandatory Carbon Reduction Commitment Energy Efficiency Scheme.
	OfS and Higher Education Statistical Agency (HESA) did not require the mandate for universities' estates' management record data submission any longer.
	Staff and students from NUS created a charity named Students Organising for Sustainability UK (SOS-UK).
2020	The COVID-19 crisis posed a serious threat to English universities and impacted OS in many ways.
2021	The UK government targeted to cut carbon emissions 78% by 2035 below 1990 levels.

Apart from external institutional contexts, internal organizational settings are also important. OS-related activities are concerned with a range of practices, such as OS-related policies, implementation projects and evaluation actions, governance structure, financial/human resources, staff and student OS training and engagement, etc (People & Planet, 2021). Universities' OS-related policies, strategies and action plans need to have specific, actionable and time-bound targets. They should cover a broad range of OS areas (different OS issues should have relevant, clear policies) and should be reviewed on a regular basis. Importantly, they should be fully supported with sufficient financial and human resources.

Many English public universities have adopted externally verified environmental management systems such as ISO or Ecocampus. Regular environmental and social impact audits of the whole university's campus operations are required for effective monitoring and evaluation. The performance of OS programmes should be closely linked to the work performance of the relevant staff at the operational and senior management levels. In addition, universities need to build a formal governance structure accountable for continual OS development, with a focus on managers at the department, school and top levels. The basic management structure, such as OS-related committees, working groups and offices, is necessary. It is, in particular, essential to develop effective senior management accountability mechanisms for OS with clear responsibilities assigned to top executives.

Systematic OS awareness-raising and knowledge training should be carried out across the university. For example, leadership training courses for management and champions, sustainability learning at inductions and encouraging communication through multiple channels are parts of the awareness and knowledge enhancement efforts. Diverse stakeholders should be involved in all phases of the OS integration process. There are a number of ways to engage constituents. These include active and effective student and staff representation in sustainability strategic decision-making committees, incorporating OS engagement opportunities into all staff and student inductions, developing a full range of communication channels and promoting various engagement events and campaigns, etc. To facilitate our overall contextual understanding of the research issues being examined, the main aspects of OS activities at universities in England are provided in the table below.

Table 4.2 Main aspects of OS activities in English public universities

OS policies, implementation actions and evaluations	carbon and energy
	waste and recycling
	water

	travel and transport
	construction and refurbishment
	biodiversity
	sustainable procurement, fair trade and workers' rights in university global supply chain
	ethical investment and banking
	equality and diversity, worker's rights within the university
OS governance structure and resources	sustainability advisory group and sustainability office
	university top management with OS responsibilities
	staff working in dedicated sustainability roles
	dedicated budget and funding for OS
OS management systems and auditing	externally verified environmental management system
	reporting, measuring and monitoring through regular audits
	externally audited or verified standards, for example: ISO14001 and other ISO related systems People and Planet University League BREEM rating Fair trade status by fair trade foundation Living Wage accreditation by Living Wage foundation, among many others
Staff and student OS engagement and wider communication	staff and student engagement strategy, implementation and monitoring
	staff and student induction and representation on committees
	various channels to report and communicate OS activities

Adapted from People & Planet university league table criteria/methodology (2019) and OS information on the relevant universities' websites

Some similarities and differences in relation to English public universities' OS

While every university is unique, many interviewees mentioned that, from a sector-wide perspective, public universities in England face similar institutional pressures and have to take measures to meet (or appear to meet) the expectations from similar stakeholder groups in the context of OS. As responses to stakeholders' demands, broadly speaking, the majority of universities addressed similar OS issues and adopted similar practices (e.g. structures, targets, strategies, policies, action plans, engagement programmes and communication approaches, etc.). As one interviewee noted: "*Amongst our peer universities we are all facing the same pressures, the drivers are the same ... broadly we're all facing the same issues…*" (Interviewee 10). A number of other respondents shared similar views:

> "*I think a lot of them [OS activities] are very similar. You would expect most universities to produce something about reducing their carbon emissions. You'd be expecting all of us to be doing something about our transport impact and the food that we offer. I think there are tons of similarities ...*" (Interviewee 14)

> "*I think from conversations that I have had in our environmental managers' group meetings locally is that we're all trying to do broadly the same thing in terms of minimizing environmental impact. ... in broader terms for the university as a whole and the way we approach it is that we all have an environmental and sustainability policy. That outlines ten key areas and they probably are fairly much in line with other universities.*" (Interviewee 6)

As mentioned previously, the 10 key areas of OS are carbon, energy, waste and recycling, water, travel and transport, construction and refurbishment, biodiversity, sustainable procurement and fair trade (including workers' rights in the global supply chain), ethical investment and banking, and equality and diversity (including workers' rights within a university), etc. Most universities pay attention to these areas.

Through the lens of neo-institutional theory, similar OS activities undertaken, similar issues addressed, and similar stakeholders involved across different English universities seem to support an interpretation of some forms of isomorphism - similarities among organizations in terms of their practices (DiMaggio and Powell, 1983). It appears that, in this context, the majority of English public universities face similar social/institutional conditions; some universities tend to learn from (and even imitate) other peer universities with respect to developing OS activities. DiMaggio and Powell (1983) argue that coercive, normative and mimetic institutional mechanisms may sometimes give rise to isomorphism. Section 4.3.1 'Rationales: the perspective of institutional influences' provides a detailed analysis of the influences of these institutional forces on English universities' OS.

On the other hand, this study reveals that, apart from isomorphism, there are some differences in the extent of complexity or difficulties faced by different English universities with regard to their OS, mainly due to relevant organizational characteristics, such as the emphasis on energy-intensive research and age of estates. For instance:

> "*A research-intensive university, the university is open 24/7, since you use more energy, more water, more waste. If you have a carbon reduction target, it's more difficult for you to reduce your carbon footprint in a research-intensive university compared to a teaching-based University. [...] Even if you are research-intensive, it depends on the type of research you're involved in. If funded research in your university is energy-intensive, then you use more energy, so it becomes difficult.*" (Interviewee 12)

> "*I think a big difference would be whether or not an organization is research-led or not. If I think about the efficiency of some of our buildings, the most inefficient ones are the ones which use the most energy and have the worst display energy certificate are the ones where there's very intensive research is going on. I've been in other buildings where there's just teaching or research which didn't involve any equipment or whatever, then they can be much more efficient*". (Interviewee 13)

The majority of participants agreed with the view that many areas of science, technology, engineering and mathematical studies require energy-intensive equipment and 24/7 continuous use of labs. These energy-intensive research activities present compound challenges to research-led universities, making it difficult to achieve OS targets, especially in carbon and energy reduction.

According to some interviewees, the age of estates is another key difference. Old buildings are generally less energy-efficient than new ones. Universities with a large number of old buildings have to tackle more complex OS issues. Some participants pointed out:

> "*The other factor I guess is the aging estate. We've got 300 buildings ranging from some that are 800 years old to some that are brand new, and trying to retrofit those old buildings to make them more energy efficient is really difficult.*". (Interviewee 13)

> "*Then obviously, if you're trying to insulate old buildings, it can be difficult when you're dealing with two-foot thick stone walls compared to a six-panel for a passive house, there are lots of differences. [...] complexity is old buildings are quite leaky... The moment you start to block up those leaks with insulations and change windows, increase air timers, you start to get condensation on the walls*." (Interviewee 20)

This research shows both the similarities in practices and the differences in the extent of complexity or difficulties in respect of English universities' OS. This result is consistent with the ideas of DiMaggio and Powell (1983). Beckert (2010, p. 151) points out that "The intention of the article by DiMaggio and Powell (1983:147) was not to claim that processes of isomorphism are somehow more important than the opposite, but rather to provide an alternative theoretical explanation for isomorphism. The authors sought to understand it not as the outcome of market-driven rationalization processes—hence the reference to Max Weber in their title—but as rooted in institutional dynamics". These authors place emphasis on explaining isomorphism, but they also recognize organizational diversity in forms and approaches. In fact, they noted that extensive research had been carried out on organizational variations (DiMaggio and Powell, 1983, p. 148). Moreover, these findings in the current study are in line with the development of neo-institutional theory in that many institutional scholars contend the coexistence of homogeneity and heterogeneity (Hoffman, 2001; Lounsbury, 1996).

It should be noted that this study is not intended to extensively evaluate the OS performance of English universities. The purpose of this research context description is to help us better understand the research issues and research questions being examined - contextualized understanding. This section only provides a brief overview of the research context, because the detailed description of different issues/aspects is integrated into the relevant parts of the following data analysis.

4.3 Analysis and findings on rationales for OS engagement in English public universities

With the research context in place, this part of the analysis addresses research question one: Why do English public universities engage in sustainability activities in their (campus) operations?

The responses to this question tended to be related to two main rationales for the universities' OS engagement: social institutional (mainly external) influences and organizational internal motivations. Interview and document data are analyzed using both neo-institutional theory and legitimacy theory to understand how coercive, normative and mimetic institutional influences, combined with the pursuit of organizational legitimacy and various organizational self-interest, shape the managerial decision-making with regard to universities' OS. These two perspectives are different but complementary. They are also interrelated and overlap in some cases.

4.3.1 Rationales: the perspective of institutional influences

In this section, the researcher uses neo-institutional theory (DiMaggio and Powell, 1983; Scott, 2014) to contribute to the understanding of how different social institutional mechanisms combine to influence the rationales for English public universities' OS engagement. Scholars note that neo-institutional perspectives place emphasis on the shaping effects of social factors, instead of viewing OS activities as something managers rationally decide and purposefully undertake in order to obtain carefully considered results, as implied by legitimacy theory (Bebbington et al., 2009; Suchman, 1995).

Managers directly involved in OS decision-making were asked to identify whether they experienced any influence when undertaking organizational OS activities. Interview and document evidence illustrates that a range of regulative, normative and cognitive institutions exert coercive, normative and mimetic influences on universities in varying degrees (DiMaggio and Powell, 1983; Scott, 2014). A variety of institutions, at international, national and local levels, affect organizational decisions and actions in different ways (Friedland and Alford, 1991). Thus, organizations engage in OS activities partly because they are perceived as parts of being 'normal to fit in' the social context within which they function (Bebbington et al., 2009). Further, these coercive, normative and mimetic categories of institutional mechanisms are inter-related sometimes.

4.3.1.1 Perceived coercive institutional influences

The evidence from this study shows that one of the principal reasons for universities to undertake OS initiatives seems to be coercive pressure. Neo-institutional theory points out that some form of coercive pressure is exerted by regulatory authorities on an organization's motives and actions (DiMaggio and Powell, 1983). Scott (2014) posits that regulatory institutions are on the basis of laws and rules, monitoring and enforcement, and potential reward and punishment. Specifically, this study reveals that the main source of coercive institutional pressure is the government: namely, central government, local government and the English higher education sector regulator. Different government authorities influence universities' OS through various means, such as laws, regulations, targets and government policies, coupled with financial resource allocation, etc.

4.3.1.1.1 Coercive influences from central and local governments through laws, regulations, policies, targets and funding

The central and local governments directly influence universities' OS by establishing a set of sustainability-related laws, regulations (including taxes), policies and setting targets. Universities have to respond to the government demands and comply with the relevant regulations. Laws and regulations are typical examples of coercive institutional mechanisms; they force universities to obey and align their activities with the legal requirements. All interviewees noted these critical motivating factors, for instance:

> *"The first influential stakeholders are the government. In terms of how they influence is obviously through regulations and initiatives that come through various [government] departments, ... They have influence because we have to comply a lot with the regulations and spend money to do so - which is why they're influential."* (Interviewee 7)

> *"Then there's government, obviously, the government in terms of legislation, or general policy, or incentives the government may offer, to comply with environmental legislation. For instance, not only legal but also taxes like the Climate Change Levy that we pay"*. (Interviewee 8)

In many participants' perceptions, regulations and government policies, including taxes, can be effective ways of motivating English universities to take OS issues seriously and engage in them. For instance, the central government, through the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES), developed a performance league table to evaluate and compare organizational carbon and energy reduction, affecting the reputation of universities to some extent. More importantly, CRCEES utilized financial tools (e.g. allowances) to incentivize universities by decreasing the operational costs for high performers in reducing carbon and energy and increasing the operating expenses for low performers. As an interviewee recalled:

> *"CRCEES was a way to effectively encourage big organizations to take their carbon emissions seriously by saying "If you don't try and reduce your carbon, you're going to get hit with the taxes." ... the government at that time set up a league table. Essentially, what was going to happen was the people in the top half of the league table would benefit ... would be in a position where they could effectively sell surplus credits and the people in the bottom half of the league table would be buying them. There were effectively various things put in motion to ensure that bigger organizations took things seriously."* (Interviewee 6)

Local governments also place their pressures on universities through local regulations and rules, such as planning permissions and building regulations, directly affecting organizational OS-related motivations and actions in the areas of universities' estates, buildings and transport. Participants expressed their opinions on this issue:

> "*I think probably one of those important ones for us is the local authorities or the local council. ... The council has given us outline planning permission, ... in terms of development on this campus and on the sites. With that has come something called the Section 106 agreement which relates to us. It means we have to produce a travel plan which details how we are going to reduce traffic congestion and single-occupancy journeys to and from the campus. In terms of external stakeholders, the council is perhaps the most prominent or important because, without that outline planning permission, it will be difficult for the*

universities to develop, put up new buildings, and change existing buildings. The local authorities are very relevant and very prominent stakeholders in terms of their ability to influence what we do." (Interviewee 5)

Moreover, as government funding is one of the major income sources for English public universities, substantial sustainability-related public funding and government payment/investment can be regarded as means of exerting coercive influence. According to interview and document evidence, gaining access to relevant government funding, at both national (e.g. Salix funding) and local (e.g. local councils' s sustainable funds) levels, is a direct motivation for universities' OS engagement. For example:

> *"The Salix funding has really supported our university in being able to introduce operational savings, introduced the funding needed to be able to pay for introducing its LED lighting ... or supporting payments of solar panels, etc. That's really facilitated it [the university's OS] because it's an interest-free loan, essentially that's made things easier and you obviously pay back over time"*. (Interviewee 16)

> "*…there are opportunities for funding from local councils. For instance, there's the Sustainable Travel Fund, which I know, [name of university] did*". (Interviewee 6)

Such perceptions appear to support an interpretation of government authorities' pervasive forms of coercive influence (DiMaggio and Powell, 1983) on OS-related issues. This research now turns to analyze the coercive pressures from another key institutional actor.

4.3.1.1.2 Coercive influence from university sector regulator through target setting and policies, combined with financial resources

Among different government authorities, the higher education sector regulator (formerly HEFCE and currently OfS) is one of the most relevant and essential institutional actors applying coercive influence on English public universities' OS. The sector regulator motivated universities' OS engagement through setting targets, establishing policies and allocating financial resources accordingly. In response to the central government's sustainability-related targets, HEFCE influenced universities' rationales for improving OS by setting specific sector targets. For example, an interviewee stated: *"Historically, we've had HEFCE and they put on a target to universities to reduce their carbon emissions by 43% by 2020 and that was in line with the government targets."* (Interviewee 9)

Notably, HEFCE influenced OS through sector policies combined with the force of financial resources. As a participant commented: "*When I began this role, HEFCE was the link between government funding to universities. Their environmental remit to universities was quite strong*." (Interviewee 8). For instance, in order to meet related government funding requirements in HEFCE's Capital Investment Framework, universities must set carbon reduction targets in accordance with the sector regulator's directions and targets and to take OS-related actions. Participants explained this influence, which encouraged OS engagement, in detail:

> "*CIF2 - Capital Investment Framework 2 actually looked at carbon emissions and said universities must set a carbon target that's in line with HEFCE's aims. If they don't, they won't be eligible for investment on the Capital Investment Framework 2. We had to first know what our carbon emissions were, and then set a target to be eligible for funding of major improvements on campus. That was a big driver at the time as I recall. ... it certainly helped us [sustainability team] to focus on making statements about projects that we had lined up"*. (Interviewee 6)

In summary, grounded in neo-institutional theory (DiMaggio and Powell, 1983; Scott, 2014), this study shows the presence of coercive institutional mechanisms in this context. The coercive pressures were mainly created by the central government, sector regulator and local government. This section also focuses on how institutional actors exert their coercive influences. Various government authorities affect universities' OS motives and activities through laws, regulations, targets and government policies, coupled with funding allocation, etc.

On the other hand, section 4.4.2 'Social institutional-related barriers' of this study reveals the problems of insufficient or inadequate legal and governmental coercion in this context. The evidence shows that there has been a decline of government coercive pressures on universities' OS in recent years. The overall government influence and support (e.g. central leadership, regulations, enforcement, resources and guidance) have weakened in strength and scope. Many relevant government initiatives and financial incentives have been removed. In some cases, it seems that the government exerted inadequate or even negative effects on universities' OS partly due to their short-termism. Such short-termism and inadequate government regulations/policies impeded long-term, substantive OS changes.

4.3.1.2 Perceived normative institutional influences

As Scott (2014) emphasizes, normative institutional influences are concerned with how things should be done. This implies that people and organizations have moral obligations to behave in socially expected manners. In this context, the main sources of normative pressures are perceived to be students and student-led organizations (including student-led activist groups and students' unions). Different institutional actors have varied influences through a broad range of means and channels. Particularly, the grassroots student-led activist groups directly and critically confront universities, by questioning and even publicly challenging their existing OS practice and performance. However, the scale and depth of normative influence are limited.

Many interviewees perceived that students and student-led organizations are influential stakeholders to motivate universities' OS-related actions. A growing number of students are aware of the importance of sustainability issues and demand that universities take responsibility for the social and environmental impact of their operations. In some universities, students' influence is strongly felt, and the pressure from the next generation of higher education students is expected to increase, especially in their choices of university enrolment. Students exert normative influence mainly through student-led activist groups and students' unions. Although they have limited financial and dedicated staff resources, they adopt various 'bottom-up' approaches to exert such influence. To a lesser extent, a limited number of student sustainability activists even take radical actions such as large-scale school walkouts, protests and lawsuits.

As an example, a participant pointed out: *"I think our most powerful external stakeholder is the student body and the youth if you like. And the student demographic is becoming more vocal in environmental matters recently, particularly related to climate change. I think that is our strongest influence going forward".* (Interviewee 10)

Document data show various ways used by students to radically push universities' OS forward:

> "*From the growing trend of large-scale school walk-outs, protests and climate-related lawsuits among youth globally, it is clear that the next generation of higher education students will increasingly hold institutions to a higher standard, with climate change mitigation and adaptation responses potentially playing an increased role in their choice of institution.*" (EAUC, the Higher Education Business Continuity Network and AECOM, 2019, p. 9)

4.3.1.2.1 Some but limited normative influence from student-led activist groups and the sustainability league tables

The evidence indicates that students influence and motivate universities' OS engagement partly through People & Planet - a grassroots student-led activist group and large student network organization[8]. People & Planet promotes environmental and social sustainability in the higher education sector and challenges the existing 'business as usual' practices of universities' operations. It exerts influence by developing and publishing the People & Planet sustainability University League Table, undertaking sustainability programmes and campaigns (e.g. Fossil Free, Sweatshop Free and Divest Barclays), providing sustainability training to students, and having a voice in the media, etc. (People & Planet, 2020).

Many interviewees recognized the People & Planet University League Table, previously named the Green League, as one of the driving forces for universities' OS engagement to varying extents, and as having some effects on organizational approaches to OS[9]. Despite the limitations of its ranking methodology (see 4.4.2.2.2 'Mixed views on the influence of the sustainability league table'), the University League Table evaluation criteria set higher standards (also broader and greater expectations) than the current engagement of the majority of English universities. Organizations must make substantial efforts and, in some cases, serious investments if they expect to achieve top scores in every aspect of the ranking metrics. The ranking is aimed at holding universities to a higher level in terms of their OS responsibilities

---

[8] People & Planet has more than 50 student groups at different UK universities and colleges. They empower and train over 2,000 students each year to tackle the problems relating to OS (People & Planet, 2020).

[9] For example, an interviewee emphasized: "*... I would say People & Planet have had quite a bit major impact on university operations through the university league since 2007. A lot of that league table was based on campus operations. A lot of universities are investing time and effort in addressing the particular aspects that they chose to put into the Green League or the university league, in order to come out well in the league*". (Interviewee 7)

and performances; the relatively rigorous assessment standards provide challenges to universities. Many participants elaborated:

> *"[as an activist group] People & Planet need to be asking us to do things that we find difficult, which I think is a good thing. I've talked to People & Planet now and again. I think that their league table did a great deal to improve the sector"*. (Interviewee 14)

> *"There are a lot of examples of those where I would say that league table is a pretty good guide to all the things that you could do if you wanted to get into the top 10 but there are obviously a large number of things in there that to average university probably not going to either be able or have an interest in doing"*. (Interviewee 6)

Document data from different sources also reveal that the sustainability University League Table may have an element of normative influence, trying to hold universities accountable for their social and environmental impacts, questioning their status quo with respect to OS, and criticizing their existing unsustainable operations. For instance, after publishing the league table, People & Planet commented:

> *"University League published today reveals how a decade of student pressure on campus has transformed the sustainable development of Higher Education in the UK. Yet some universities - big, old, small and specialised - are failing students and future generations by not taking their responsibility seriously…. But considering the urgency of climate change and social inequality, other action has been frustratingly slow or even regressing; the amount of renewable electricity that universities bought tripled in the first 5 years of the league table, yet worryingly this year's results show that this trend has reversed, with the average amount of renewable electricity bought by universities 3 times less than at its peak"*. (People & Planet, 2018)

A postgraduate student reinforced this point in the comment section of the 2018 University League publication: *“"Without this league table, universities are often accountable to nobody on these issues. By making this information public and transparent, People & Planet are helping students to hold their university management to account. ...*”” (People & Planet, 2018)

Moreover, some participants perceived People & Planet as a monitoring mechanism. The grassroots student activist group critically assesses universities’ OS and makes the results available to the public, pushing universities to do the right things and enhancing accountability. For instance:

> *“People & Planet is definitely a monitoring mechanism. People & Planet monitors all different impacts, and then all their information is in the public domain. ... I worked in previous organizations [in other sectors] where you didn't have your own People & Planet; and effectively the way you were committing your impacts you could pick and choose. [By contrast, in the university sector], there is People & Planet. It's all out there. If people want to find the information they can”*. (Interviewee 11)

> *“Obviously, I appreciate that they [People & Planet] are pushing us to do the right thing.”* (Interviewee 13)

4.3.1.2.2 Some but limited normative influence from students through students’ unions

In addition to student-led activist groups, from the interviewees’ accounts, students also influence and motivate universities’ OS activities through the National Union of Students (NUS) and local students’ unions at different universities. Students’ union officers come from the student body and are elected by students. As representatives of students, students' unions play active roles in promoting OS by initiating a number of sustainability programmes and campaigns, conducting research (e.g. sustainability skills surveys), taking actions to improve their own unions' OS[10], and having a voice in the media.

Under the leadership of the NUS, local students' unions are increasingly demanding that universities take ethical responsibilities for their OS seriously; promoting OS has become one of the core activities of students' unions. Some respondents perceived that the effect of the NUS on universities' OS was relatively strong[11]. In order to strengthen students' influence and provide leadership, the NUS founded a charity named Students Organising for Sustainability UK (SOS-UK). It has a large sustainability team, consisting of more than 16 dedicated managers/coordinators responsible for different aspects of OS in the sector (SOS-UK, 2019a). The NUS leads a number of OS-related programmes and campaigns across the higher education sector, including Green Impact, Student Switch Off, Student Eats (growing food on campus), Recycle League, Plastic Free, Ethical Value Chains, and Divest-Invest, etc. (SOS-UK, 2019b). Many of these initiatives aim to make a difference in universities' OS and try to hold universities morally accountable for their social and environmental impact and actions. This perspective is associated with a normative institutional influence. For instance, the NUS's website introduced one of its campaigns:

---

[10] Students' unions' OS activities are integral parts of universities' overall OS. Document data, particularly from the NUS's website and almost every local students' union's website, revealed that many students' unions made efforts to improve their own OS. Such efforts included appointing students' union's sustainability staff, developing sustainability guides for union members, establishing unions' social and environmental policies and plans, and disclosing unions' carbon footprint reports, etc.

[11] For example: "*The NUS has a quite powerful voice in the sector. They're pretty good. They provide some very useful programmes and tools that universities can use to further embed sustainability in what they do…. [in terms of the extent of the NUS's influence] I'd say it's probably strong. They have quite a big sustainability team within the NUS and are quite prominent in some of their campaigns….*" (Interviewee 5)

"*Divest-Invest is about challenging the 'social license' of fossil fuel companies – those involved with the extraction, production and processing of coal and/or tar sands and/or oil and/or gas - to operate as they currently do, whilst making it possible for renewable initiatives to thrive. In its most literal form the campaign can be understood as pushing for the movement of investments [money] out of stocks, bonds, or investment funds that are unethical or morally ambiguous [divestment/-divest], into positive, socially responsible sectors, such as community energy [reinvestment/-invest]. […] Nearly 50% of all UK universities have joined the global fossil fuel divestment movement since it began in 2013*." (SOS-UK, 2019c)

Local students' unions and their OS initiatives are also perceived to be a driving force. In some English universities, the influences of local students' unions are strongly felt. An interviewee stressed: "*More generally, it [OS activity]'s also driven by the students…. mostly through our Students' Union. ... quite a lot of actions from the SU. ... most of the influence that we get would come from the Students' Union*". (Interviewee 4)

Normative institutional mechanisms emphasize education, training, knowledge sharing and professional development, etc. (DiMaggio and Powell, 1983). In this context, both the NUS and local students' unions undertake knowledge exchange and research and organize training, events, conferences and workshops, in order to share new ideas and approaches across the university community. For instance, SOS-UK set up 'The Learning Academy' as the hub of sustainability training and development. Their training programmes cover topics like organizational change, individual behaviour change interventions, carbon literacy, sustainability in laboratories, founding a sustainable food social enterprise and a non-dig food growing site[12]. Such

[12] They also provide tailored training designed for union staff who have responsibilities or interest in sustainable development, course representatives for education for sustainable development,

training activities are intended to build knowledge, skills and social network for championing positive sustainability changes (SOS-UK, 2021). However, due to various resource restrictions, most of their programmes are short courses, significantly limiting their normative impact.

Despite their limited scales and influences, some of these ‘bottom-up’ OS-related student training initiatives specifically focus on how to make systemic organizational transformation towards sustainability, change people’s attitudes and behavior, and even shift cultures and lifestyles. These actions may also facilitate student and staff dialogue and engagement in OS - supporting the interpretation of normative influence.

Moreover, students’ unions conduct research regarding sustainability on a regular basis and disseminate the results to the student community. Their research findings indicated that there was a growing demand for universities’ OS engagement among students, which seemed to be a positive motivating factor for universities in England. A respondent expressed the following point during the interview:

> *“The NUS run something annually called the NUS Sustainability Skill Survey. ...That's really useful in terms of understanding the attitudes of students towards sustainability in the higher education sector. We're finding that 80% of students who respond to the survey from our university want us to be doing more to promote and embed sustainability in what we do…. That sort of thing is really useful to put under the nose of Vice-Chancellor and senior management to say, "We're interested." As a team, the sustainability team at [name of the university], we want to do more projects and have more resources and this is exactly what students want us to be doing as well.”* (Interviewee 5)

---

and students who want to bring sustainability into their future careers, etc.

During the interviews, many participants expressed a sense of normative influence resulting from OS-related education, training and knowledge sharing. They think that such initiatives, which advocate for systemic, long-term and substantive sustainability changes, are helpful in raising organizational members' sustainability awareness and enabling them to behave in socially and environmentally responsible ways (see DiMaggio and Powell, 1983; Scott, 2014). However, it can be argued that not all sustainability training and professionalization are associated with normative influence. For example, some 'best practice' sharing activities (organized by other parties rather than students) emphasize short-term, technocentric, quick fixes, "without critical reflections around taking account of the various long-term, pluralistic, conflicting stakeholder attitudes, emotions, behaviour and lifestyles" (Jones 2017, p. 487). They focus people's attention and efforts on making business cases for universities and incremental improvements, restricting the potential for fundamental transformation.

4.3.1.2.3 Students and student-led organizations use media to criticize the current 'business as usual' OS practices, reflecting the normative influence

The organizational activities that address social and environmental concerns are likely to attract media and public attention. Participants felt that, as more and more people became aware of the impact of universities' campus operations on the society and environment, the media put more emphasis on these issues. According to both interview and document data, the media has been increasingly influential to English universities in this context[13]. The analysis reveals that student-led organizations use the platform of the traditional, 'mainstream' media to attract the attention of students and the general public concerning universities' OS issues and to apply more pressure on universities, showing an element of normative influence. For example, People & Planet sustainability University League Tables are regularly published by the

[13] For the analysis and evidence of the media's influence in this setting, please refer to 4.3.2.2.3 'Maintaining legitimacy with media and the general public and benefiting organizational self-interest'.

Guardian. Often, People & Planet presented critical comments on universities' sustainability practice and performance in news media. Due to various constraints, the university sector sustainability activist groups have limited resources and impacts. By having a voice in the 'mainstream' media, the normative influence is strengthened. This was confirmed by document data:

> *"According to the 2019 People and Planet University League published on Tuesday, ... only 49 of 154 institutions are likely to meet the target set by the former funding agency of a 43% reduction of carbon emissions between 2005 and 2020. The lack of progress is frustrating, says Hannah Smith, the network's co-director of campaigns and research [People & Planet]. "It's abhorrent to watch universities fail on climate change at a time when people on the frontlines of the impacts are fighting back against heatwaves and forest fires. Universities have a duty to stand with those communities and their students on strike and use their privileged position to act," she says.*" (Lightfoot, The Guardian, 2019)

Such activist group and media collaborative efforts not only disclose universities' OS-related poor performance and lack of progress to the wider society, but also act as warnings for low performers to be aware of their situations and motivate some of them to take more actions. As one participant explained:

> *"I think the news media, I guess universities were thinking about reputation. When something is reported in the media about our university or other universities, it will no doubt be picked up within the university. Then, the university has to decide whether or not it's going to address it in a specific way. For instance, with the league table, the Green League, one year when we had a very poor position, there was suddenly a big awareness in external relations. We needed to put a note out in the media which said we're working hard in this area.*" (Interviewee 6)

Similarly, students' unions understand the significance of having a voice and expressing their opinions in traditional and social media[14]. They reached out to the traditional media, reinforcing the normative influence for sustainability accountability - becoming a motivating factor for making universities' OS change. For example, Zamzam Ibrahim, the President of the NUS (at the time of the research), delivered the following messages in her article published in The Guardian:

> "*Despite growing declarations of climate emergency, 50% of UK universities remain invested in the principle profiteers of the climate crisis. At a time when Australia burns in the bushfire crisis and climate deniers remain in positions of power across the globe, this lack of action is unforgivable…. The social licence of the fossil fuel industry has already been significantly damaged. We'll now use this moment as a springboard to continue campaigning until the whole university sector has divested and the fossil fuel industry can no longer operate.*" (Zamzam Ibrahim, The Guardian, 2020)

Additionally, from the interviewees' narratives, students use social media to influence universities and social media is perceived to be effective. The evidence shows that universities become gradually responsive to OS-related students' demands, especially those requests made through social media. For instance, some participants illustrated:

> "*... the student recycle scheme that we normally run but because of COVID-19, it wasn't going to run this year as it normally does. However, we received some heavy criticism from student activists through social media. I would say that that had some influence on us actually going back to the drawing board and*

[14] For example, the NUS's views and activities in relation to universities' OS have been published in the Guardian, Independent, Huffington Post and Open Democracy, etc. (The NUS, 2019).

seeing what we could do. ... we certainly pay attention to students' social media posts." (Interviewee 13)

"*I think where they [students] have worked through social media and the new one coming through particularly around water use. They've been really good and they're a lot more dynamic at doing the effective sound bite and why we should be doing this. I think that's been really powerful and useful. I'm keen over the next year to really work with the students that are doing the campaigns to make sure that their voices are heard across the university to other students and within the university as well. I'm really up for students' voice*." (Interviewee 16)

From a critical perspective, the normative influences of student activist groups and students' unions are limited and even fragmented. Section 4.4.2.2.2 'Mixed views on the influence of the sustainability league table' unveils that the ranking methodology of the University League is not without critics. During the interviews, apart from the University League Table and student training, there was no mention of the influence of People & Planet's other activities/campaigns. Other sustainability pressure groups relating to universities' OS were less mentioned by the respondents as being influential. Moreover, the influences of different local students' unions are mixed and varied. In some interviewees' perceptions, although the majority of students are aware of the significance of sustainability, many of them are not actively involved in universities' OS, nor do they give priority to sustainability in their choice of university. For detailed findings and analysis concerning these respects, please see section 4.4.2.2.1. 'Insufficient pressures from students'.

4.3.1.2.4 Sector sustainability professional associations' efforts have some but limited elements of normative influence

Additionally, on the basis of participants' perceptions, universities' rationales for OS engagement are also affected by sector professional associations. The evidence from this research indicates that EAUC, as a sector professional organization, seems influential to sustainability practitioners at universities. This was mentioned in the interviews:

> "*There's the Environmental Association of Universities and Colleges and that would influence me directly, because it's more of an organization that support and improve the work that I and colleagues in the sector are doing*". (Interviewee 7)

> *"I think [the influence of EAUC] possibly more on the environmental team. When we're talking about EAUC, I think they do a lot of positive work. They aid the environmental team in achieving a greater awareness of environmental issues. They provide a lot of support to us*" (Interviewee 6)

EAUC influences universities' OS by undertaking a wide range of activities, such as influencing government policy and legislation for substantive changes via advocacy and consultation, conducting knowledge exchange and research, providing training, events, conferences and workshops, developing guidelines and tools, promoting professional networking, leading relevant programmes, and getting involved with a number of campaigns on behalf of its members, etc. (EAUC, 2021). Most of the programmes focus on assisting organizations in reducing their social and environmental impacts.

In EAUC's consultation response to the government, some of its members (universities and managers) strongly advocated that universities must be forced to take greater OS responsibilities, the relevant OS targets needed to be mandatory, and sufficient government sanction was necessary. Such advocacy could potentially lead to stronger governmental coercive pressures, driving universities to do more about OS. This was shown in its documents:

> "*The issue needs to be forced. The reduction in carbon so far is embarrassing for a sector that is relatively wealthy and has ambitions to be here for the long term. People are too quick to make excuses, and the sector keeps on getting distracted. … For Universities with rapid growth would carbon offsetting be a sanctioned route to meeting targets? Penalties for failure would be helpful in the next round of targets because that is how you motivate real institutional-wide change. … Members felt that mandatory targets would motivate institutions more than voluntary targets. Sustainability orientated staff often struggle to get senior buy in to sustainability measures - mandatory measures will force the issues further up the decision chain"*. (EAUC, 2017, p. 5)

EAUC attempts to positively influence OS policy and legislation through advocacy and consultation. As discussed above, EAUC and some of its members questioned and challenged that the government did not impose sufficient and adequate pressures on universities in this area, showing some form of normative influence for positive changes.

DiMaggio and Powell (1983) posit that certain forms of professional influence and professionalization are related to the normative institutional mechanism. Normative institutional mechanisms emphasize education, training, professional guidance/best practice development, knowledge sharing, communities of practice and professional networking, and other forms of professionalization (DiMaggio and Powell, 1983). In this context, EAUC undertakes knowledge exchange and research and organizes training, events, conferences and workshops, in order to share new ideas among sustainability-oriented staff and encourage universities to make OS progress. Moreover, EAUC creates a range of professional networking opportunities and forms diverse communities of practice in different areas of OS such as divestment, waste, biodiversity, energy, water and fair trade networks (EAUC, 2019d). As some participants described:

> "*What I would say about EAUC is that I think that they organize really interesting events and I've learned a lot from attending webinars and all sorts of things, from biodiversity to transport to waste. [...] it's more of a useful network for sustainability practitioners to learn more, and try and share best practice. ... I think what it's doing is it's helping maybe these people on my team to become more effective in their jobs*" (Interviewee 13)

> "*The EAUC has been really helpful for sustainability teams and really supportive of more junior members as they join teams and learn about the sector. That's very positive because it provides teams with resource and knowledge to do their job well.*" (Interviewee 17)

Moreover, EAUC warned in its research report relating to universities' OS:

> "*It was felt that with increasingly urgent and competitive agendas for senior management in institutions, without external pressure to deliver sustainability, it would not be prioritised. This is supported by a drop in those that describe their institution's approach to sustainability as a strategic priority, from 30% in 2017 to 22% in 2018.*" (EAUC, 2019h)

The professionalization and training on OS topics were identified through the interviews and document analysis. A number of respondents think that OS-related education, training and communication initiatives are helpful in raising organizational members' sustainability awareness and enabling them to behave in socially and environmentally responsible ways - showing an element of normative influence (Scott, 2014). By participating in formal and informal sustainability training and education programmes, universities can gain the latest knowledge, technologies and skills promoting OS. Consistent with DiMaggio and Powell's (1983) normative institutional mechanisms, professional bodies such as EAUC help to define the methods of work of the managers responsible for universities' OS by undertaking research and training, developing various tools and approaches, and promoting best practice. Moreover, these associations encourage organizational investments in OS-related human resources and support communities of practice and professional networking, etc. They apply normative influence through promoting voluntary sector-wide OS-related norms and codes of conduct as well as advocating the adoption of 'best-practice' (see also Beddewela and Fairbrass, 2016).

However, from a critical point of view, the scope, scale and depth of normative influence from sector professional associations appear to be rather limited. The present study unveils that the impact of EAUC on university top executives and the whole organization seems lacking. There is insufficient evidence indicating that EAUC has directly questioned and publicly criticized the current OS practice of English public universities. Furthermore, there is limited indication that such professional bodies have challenged the unsustainable way the universities operate or demanded a fundamental change towards sustainability. For detailed findings and analysis concerning these aspects, please see 4.4.2.2.3. 'Limited influence of professional associations'.

4.3.1.3 Perceived mimetic influence mainly from peer universities' OS practice and performance

This study reveals that isomorphic pressures to imitate peers and competitors seem to play a significant part in most of the sample universities. Peer universities' influence has been identified by many respondents as one of the key reasons for OS engagement. Universities tend to learn from others and imitate what successful peer organizations do. Peers' OS-related practice and performance are perceived to be the main source of mimetic influence. From these participants' perspectives, the main reasons why universities imitate peers' sustainability activities and compare themselves with their peers' performance are to ensure organizational competitiveness and acquire knowledge and information. Furthermore, the analysis indicates that sustainability league tables and media publicity with respect to peer universities' OS positions and activities seem to reinforce mimetic influence.

Based on the managers' perceptions, the primary reason for universities, especially for top management, to compare themselves with peer universities' OS practice and performance is to gain or maintain organizational competitive advantages. As an interviewee explained:

> "*Internally, the Vice-Chancellor and the policy group are interested in what we [sustainability team] do, ... partly from how we compare ourselves with other peer organizations. … I think most universities would tend to have a comparative group. .... we would have a basket of universities that we would always be comparing ourselves against to get an idea generally of how well we're doing in the sector, alternatively just working out how you can get competitive advantage possibly"*. (Interviewee 4)

Moreover, universities, especially organizational personnel whose responsibilities directly involve managing OS, focus attention on peer universities' OS practice and performance, with a view to learning from each other regarding best practices and sharing OS-related knowledge/information. However, the ultimate organizational goal is still connected to universities' pragmatic considerations of attracting students and income, as perceived by interviewees. For example:

> "*Really, if something comes out and pretty every university is looking at it apart from yourselves, then maybe it's a bit of pressure there that we better start looking at that initiative.[...] I think it's you're able to get actual examples of success and failures. Sometimes some universities have tried something new and then you have to see how that if it's benefited them*". (Interviewee 8)

> "*Now we look at those universities who I think are leading and see what they are doing. ... We always pay attention to that to see what people are doing, because I guess it's just a way of sharing best practices, isn't it? ... we definitely look to see what other universities are doing*". (Interviewee 13)

Another interviewee expressed his comment from a similar point of view, but emphasized that the ultimate objective of doing this is still pragmatic - to increase students and income:

> *"I used to say, "Let's look at what other universities are doing. ... If we've got problems, are there other people that have already addressed these problems?" It's a matter of not reinventing the wheel. I think what you find in universities is they're very aware of what other universities are doing. ... I think that's the way universities operate. They look at what best practices or what their competitors are doing and say, "What are the opportunities?" Of course, it's all focused at the end of the day on how many students they can get in. ... Everything that a university does is calculated to attract students and income".* (Interviewee 6)

OS is a trans-disciplinary, multifaceted and evolving issue and universities have to face many emerging challenges and uncertainties in relation to it. The concept of sustainability is highly complex and even ambiguous. In practice, both top executives and sustainability practitioners often cannot clearly understand or thoroughly test innovative technologies or new approaches/structures associated with OS. DiMaggio and Powell (1983) propose that, in uncertain circumstances, organizations are likely to mimic the practices of their successful peers or activities undertaken by a large number of other organizations in the same field (Carpenter and Feroz, 2001), illustrating mimetic institutional influence. Through such imitation, universities could convey a message that they are complying with the constituents' expectations.

Peers' performance in sustainability league tables and media publicity about peers' activities reinforce mimetic pressure

As discussed earlier, many participants deemed the People & Planet University League to be part of motivational factors for managerial decision-making in this context. From the interviewees' narratives, participation in this league table appears to be a common exercise for universities in England. Many universities are concerned about their own position compared with their peers' performance in sustainability performance rankings. A large number of peer universities have taken part in such league tables and changed (or appeared to change) their OS practices based on the ranking's assessment criteria.

To a degree, some peers that performed well in the ranking exercises are externally regarded as 'leaders' in OS. Conversely, if a university performed poorly, it might be viewed as not 'fitting into' these 'normal' activities, or it might be excluded from the list of successful or leading organizations in this respect; then it might be perceived as failing itself and losing competitive advantage. As a participant perceived:

> "*The reason why Green League has been important in the past is because a lot of universities have done it, and if you don't do it, then you partly failed yourselves from a sustainability point of view... An influence really comes from our position in relevant league tables. ... that is viewed externally that illustrates right position comparatively with others. That is an important one for us in terms of our position*" (Interviewee 4).

In other words, peer universities' better performance in this league table may increase mimetic influence on some universities, driving them to make more efforts. Some other interviewees also explained:

"*There's the People & Planet Green League... . There is that element of competition that can drive things forward and it's almost like, "They're doing this, why can't we be doing this or something better?" ... I know our Vice-Chancellor looks at the People & Planet Green League, looking at where we pitched against other universities, in particular, universities that were a similar scale to us.*" (Interviewee 9)

"I think senior managers always, when a new benchmarking result comes out, they look for where we are, and then they look to see where all of our competitors are. It's about five or six other universities who we compete against... If other universities that we compete against seem to be doing better than us in relation to sustainability, then that could be quite a strong driver for getting additional resources and additional time to do more in that particular area." (Interviewee 5)

In a similar vein, media coverage regarding peer universities' OS activities also reinforces mimetic pressures on universities, because top management care about publicity and pay attention to the university's reputation issues in the media, relative to those of its peers. As several respondents illustrated:

"An example is [name of university], which is one of our neighboring universities. They have just agreed on a green new deal, which sets out some quite challenging and inspiring targets. If that has good news coverage, and the sector really highlights and identifies that, then that would probably have some influence over our senior management team and they would probably want to think carefully what's our response to that. The university is beginning the process of thinking through, "should we set ourselves on that zero carbon targets? When would that be, for example? Or how soon could that be, for example?" Some of these external pressures are having some influence on us". (Interviewee 4)

"*I've had before our Chief finance officer has emailed me, he's noticed say an article in the news about a university and an initiative that they [peer universities] might be doing. Our chief finance officer emailed me to say, "They're doing this, is this something we can look into?"...*" (Interviewee 9)

The managers' narratives reflect that, in response to mimetic institutional influences and expectations, universities attempt to be 'normal' and to 'fit-in' with the norms and cultural definitions of the broader social system (Scott, 2014; Bebbington et al., 2009). As the analytic framework, the table below presents the template regarding the rationales for universities to undertake OS-related activities from a neo-institutional perspective.

Table 4.3 The template regarding the rationales for English public universities to undertake OS activities - social institutional influences

1. Perceived coercive influences	● Coercive influence from central government and local government through laws, regulations, targets, policies and funding ● Coercive influence from sector regulator through targets, policies and funding
2. Perceived normative influences	● Some but limited normative influence from students and grassroots student activist groups ● Some but limited normative influence from students through students' unions ● Students use media to criticize the current practices ● Sector sustainability professional associations' efforts have some but limited elements of normative influence

3. Perceived mimetic influences	● Perceived mimetic influences mainly from peer universities' practice and performance ● Universities influenced by peers' performance in sustainability league tables and media publicity, reinforcing mimetic influence

4.3.2 Rationales: legitimacy seeking and organizational self-interest

While the narratives reveal many themes consistent with theoretical ideas about social institutional influences, this part of the study highlights the significance of several distinct, but interrelated, internally-oriented rationales (e.g. maintaining legitimacy and seeking organizational self-interest). In accordance with legitimacy theory, the public perception that a university conforms to social expectations is vital to this organization's survival and development in the long run. By operating within the rules, values, norms and cultural definitions of the social system, a university could be viewed as legitimate (Suchman, 1995; Lindblom, 1993).

There are three main findings in this part. First, the sample universities in England, in many cases, employ OS as part of the business case for pursuing organizational self-interest in terms of complying with regulations and policies and mitigating compliance risks, acquiring relevant funding, saving costs and improving operational efficiency, attracting students and increasing tuition fee income, protecting organizational reputation/image and branding, expanding buildings and campuses, and gaining organizational competitive advantages. These findings are in line with some prior sustainability literature that advocates sustainability as win-win business case scenarios (e.g. Pedersen et al., 2017; Schaltegger et al., 2012; Porter and Kramer, 2011).

Second, universities wish to appear ‘legitimate’ to different sources of legitimacy (e.g. the government, students and sustainability league tables, media and the public in this context). Each group can offer some forms of regulatory, financial and/or social support to universities. If particular constituents in the society are perceived to have significant influences on a university’s long-term survival and development, the organization is likely to conform or appear to conform to what these powerful constituents expect. In return for the conformity, the university would obtain various pragmatic benefits, protecting or furthering its organizational self-interest.

Third, the analysis reveals the interplay (consistency and conflict) between securing pragmatic organizational self-interest and meeting sustainability demands. Sample universities seem to adopt a mix of substantive and/or symbolic approaches in response to OS-related demands of different stakeholders, depending on the (in)compatibility between organizational internal interests/goals and demands for OS. A substantive strategy entails real, material changes in organizational operations to comply with societal values and expectations, whereas a symbolic strategy seems to adhere to societal values and expectations but does not substantially change organizational operations. Both substantive and symbolic activities are found in universities’ OS practices but are more inclined to be symbolic. When organizational narrow, self-serving motivations (e.g. organizational expansion, financial income/saving, or organizational reputation/image management) clash with normative ideals of caring for the wider environment and society, universities may make compromises. Under some situations, a number of organizations appear to symbolically and instrumentally employ OS so as to maintain legitimacy with those powerful sources mainly to seek their own organizational practical interests, with limited substantive impact on operations. Such symbolic legitimation activities may undermine the development of substantive changes towards sustainability (moral legitimacy). The following sections will examine these three main findings in great depth.

4.3.2.1 Many rationales associated with organizational pragmatic self-interest

This research reveals various reasons for universities to engage in OS, including legal and government policy compliance, risk mitigation, cost saving and operational efficiency, organizational reputation/image management and branding, student recruitment, financial income, campus expansion and organizational growth, strategic competitiveness, and social and environmental responsibility, etc. Some of these rationales are clearly associated with universities' organizational self-interest. As an example, a professional association commented in its document: "*Among other things, it [sustainability] makes a significant contribution to cost saving and efficiency agendas, it helps universities manage risks (such as those relating to their supply chains and global partnerships), and it helps ensure that universities grow sustainably and remain competitive*". (EAUC, 2018, p. 19)

Many participants explained that one of the reasons for universities to undertake OS activities was the direct economic benefits for them. For instance:

> "*I'd say that the bottom line is: it still gives a good economic payback. [laugh]. When we do, it makes us more efficient as a business. If we can save that money, then we can spend it on what we should be spending the money on. As long as we can demonstrate we get the payback, then we will get support. ... Economics is still a strong driver*". (Interviewee 7)

Participants also stated that marketing and attracting students are also the motivations for doing OS and performing well in People & Planet league table:

> "*My university is lower down, and when I joined them, one of my priorities is to raise them in the People & Planet table, ... because students check it. ... and most universities that are on top, like [names of top three universities], if you go to their websites, you look at their student recruitment, they use those tools.... Check*

their student recruitment drive, they emphasize that they value the environment in their position as a top university in the country". It's a valuable tool that shouldn't be be ignored. ... That's why you have to use it as a marketing tool. "
(Interviewee 12)

The following sections will provide more examples illustrating OS engagement rationales associated with organizational self-interest. The interview and document evidence indicates the business case rationale among public universities. Universities and managers promote OS in a form of 'win-win' scenarios, emphasizing a range of direct and extended pragmatic benefits to their organizations. From a critical perspective, long-term sustainability is not always compatible with (sometimes even works against) economic interests and growth, and 'win-lose' situations often occur. Under such circumstances, in order to make substantive social and environmental changes, organizations may have to sacrifice their short-term self-interest and accept the economic loss. As the Brundtland report (1987, p. 9) pointed out: "painful choices will have to be made". However, the popular ideas of 'win-win' and 'business case' ignore such incompatibility and do not address the issue of 'win-lose' (Hahn et al, 2010; Spence and Gray, 2007).

4.3.2.2 Maintaining legitimacy with different sources of legitimacy and benefiting organizational self-interest

The findings of this research show that public universities in England gain acceptance/support from different sources of legitimacy so as to ensure their survival and success. These organizations attempt to be legitimate to a variety of sources of legitimacy. The sources of legitimacy are stakeholder groups from whom universities seek to obtain support/acceptance. In this case, the government, students and sustainability league tables, media and the general public are perceived to be the sources of legitimacy. Each group offers some forms of support for greater access to essential resources for these organizations (see Leung and Snell, 2017). The following section focuses on different sources of legitimacy, and, in return, the pragmatic, self-serving benefits for universities to meet their expectations.

4.3.2.2.1 Maintaining legitimacy with the government and benefiting organizational self-interest

This study indicates that one of the common reasons for OS engagement, across different universities, is the apparent concerns of the government. Universities recognize the importance of regulatory, policy and economic support which the government can offer. On the one hand, regulators and government departments have the power to approve and facilitate universities' continued operational activities, provide directions and guidance for universities' practices, and reward those organizations that satisfy government standards and demands. On the other hand, government authorities have the power to reject and even cease universities' operational activities to punish non-compliance.

All the managerial personnel interviewed stressed that, through OS activities, universities had to comply or appear to comply with the related requirements of government authorities. By doing so, universities attempted to maintain legitimacy with these sources. In return for the conformity, they would be assured of compliance risk mitigation, access to funding, operational efficiency improvement, and cost saving - the important pragmatic benefits for protecting organizational self-interest.

Maintaining legitimacy for mitigating compliance risks

Organizational legitimacy is connected with the relevant stakeholders' expectations or demands. According to the respondents, the government expects universities to comply with regulations and requirements concerning OS. Participants provided their perceptions about the government's expectations of universities in this respect, for example: "*... the government would expect us to adhere to those regulations and would also expect us as a pillar of society, as a key member of society and businesses to be demonstrating good practice. I think there's an expectation there that we would do that"* (Interviewee 7).

A university maintains legitimacy from the government authorities by trying to meet their legal and policy requirements. This is something the university must respond to. In return, a benefit for the university is mitigating compliance risks. A respondent commented:

> "*If you look at any university's legal register, then legally there is a requirement to carry out a lot of actions. You could say one reason why there are sustainability teams within universities is that they need to mitigate that corporate compliance risk... Again, universities will respond if there was a government policy to do something or a legal requirement, then they would, from a compliance perspective, have to do it.*" (Interviewee 4)

Without the legitimacy offered by the government, the university may run the risk of being penalized. Universities understand the importance of regulatory support/approval provided by the government; conformance seems to be the common response in this regard.

Maintaining legitimacy for funding

As noted earlier, the central government, sector regulator and local government all provide some funding opportunities, encouraging universities to adopt OS-related technologies and initiatives. Financial support from the government is vital to universities. By following government directions and meeting their funding requirements/expectations, universities seek to maintain legitimacy with the government. In return, they can gain access to OS-related funds offered by different government authorities. As a participant pointed out: "*... a direct economic benefit is if we incorporate some of the technologies we get money. We have, for example, buying [equipment for improving energy efficiency] that we get our payments from the government. That's part of the paybacks we get"* (Interviewee 7).

Such economic benefits for organizations were also mentioned by another interviewee: "*HEFCE pushed things like the... the Revolving Green Fund. We applied for funding of £135,000 for carbon-related projects under the Revolving Green Fund in about 2013, 14 and that was something that HEFCE was encouraging universities to do*". (Interviewee 6)

Maintaining legitimacy for cost saving

Under recent unfavorable economic conditions, the government has continued to cut public budgets for universities. Interview and document data revealed that financial saving and operational efficiency are part of government expectations for universities to engage in OS. Government authorities are particularly concerned about how universities spend public funding. In this light, the government expects (and monitors) universities to operate and utilize the funding as efficiently as possible; universities are well aware of such expectations. Many universities stressed this point in their documents, for example: "*... the government remains ever-vigilant about the level of public spending, including funding for higher education. It is therefore anxious to ensure that the funding which is provided is used efficiently for the core activities of teaching and research, rather than on administration or other ancillary activities*" (University of Bristol, 2018, p. 1)

A participant also perceived: "*A lot of the things the government thinks is cost-effective. Obviously, if you reduce your emissions, there are a lot of charges that you can reduce those costs through the levies or the carbon reduction commitments or anything that's following on from that*". (Interviewee 8)

To some extent, these government expectations are in line with universities' self-interest, providing win-win business case motivations for organizations adopting those OS practices which allow them to reduce their operational expenses. This was confirmed by both interview and document data, for examples:

> "*The government I think tried to focus the minds of people in business who perhaps weren't particularly focused on the costs of carbon by effectively making their carbon emissions very clearly a cost. It probably did help the university to some degree because basically we calculated, in our first year if we didn't do anything, we'd probably be spending about 100,000 a year extra on having to pay this carbon tax."* (Interviewee 6)

> *"Value for money[:] As the public sector finances tighten, it is important that efficient use of public funds is made and cost savings are made wherever possible. Many carbon reduction measures correspond to efficiency improvements, yielding cost savings."* (Aston University, 2019, p. 5)

However, the government's focus on operational efficiency, cost saving, and quantifiable and satisfactory returns on project investments may not always have positive effects on the development of certain long-term and complex OS initiatives (e.g. large-scale investment projects with more than 20 and even 30 years of payback periods, ethical banking and investment, or sustainable procurement and fair trade), because their direct economic benefits are less visible from the perspective of the universities themselves.

These results are consistent with prior literature which suggests that organizations gain support from sources of legitimacy like the government (Deephouse et al., 2017; Deephouse and Suchman, 2008). The government is the authority that makes the regulations that direct the ways universities should behave. Different government authorities provide essential regulatory and financial support/resources to a university. Therefore, maintaining a good relationship with the government agencies through OS engagement seems to be an approach to gaining support from these sources of legitimacy and ensuring organizational self-interest (Leung and Snell, 2017), such as mitigating compliance risks, obtaining funding and saving costs.

4.3.2.2.2 Maintaining legitimacy with students and benefiting organizational self-interest

Maintaining legitimacy with students

The strategic legitimacy perspective suggests that, to some extent, an organization responds to the influential stakeholders' expectations and demands. Consistent with this perspective, respondents from sample universities noted that, by undertaking OS activities, their organizations reacted to the expectations and demands of students – the perceived sources of legitimacy with influence. Universities are aware of the significance of financial and sociocultural (e.g. reputational) support which students can provide. Students at large not only have the power to affect universities' financial performance (e.g. by not choosing to study at the perceived less legitimate - less socially and/or environmentally sustainable - universities), they also critically assess and increasingly question universities' existing OS practices, potentially challenging their organizational legitimacy. These findings are similar to Deephouse et al.'s (2017) theoretical elaboration of how organizations gain support from the sources of legitimacy like consumers (in this case students' fees as the main sources of funding and students are paying customers to universities).

English universities engage in OS in order to establish legitimacy with students. In return, the increased legitimacy seems to benefit their organizational self-interest, such as managing organizational reputation/image and branding, recruiting students and ultimately increasing tuition fee income in the competitive higher education market. It is important to note that, according to Deephouse and Suchman (2008), while legitimacy emphasizes the congruence between an organizations' behavior and social expectations and acceptance, organizational reputation is concerned with the perceived relative (distinctive) standing of an organization in comparison with its competitors. It can often be considered as the strategic resources for enhancing organizational competitive advantages over others - a utility function (see also Li et al., 2017; King and Whetten, 2008).

Almost all participants noted that students expect universities to take responsibility for the social and environmental impacts of their operations and play leading roles in OS development. Importantly, many students expect universities to be responsive to their sustainability demands when they choose a university for their studies. In other words, they want to be a part of a socially responsible and environmentally sustainable university. For instance:

> "*I think that there's a general compulsion that we are doing something around sustainability because there's an expectation, particularly from the student body, that we should be doing something. I think that's largely one of the main reasons for doing this [OS] really*". (Interviewee 4)

> "*So I think students or the youth of the world are facing the consequences of the enjoyable lives that the rest of us have led and are continuing to lead. I think that they expect universities to play a leadership role in that regard. ... It's always difficult to come up with meaningful statistics about how important environmental issues are in a student's choice of university going forward. I don't think it's at the top of their list but it is a consideration for most students I think*". (Interviewee 10)

Students' unions conduct research regarding university sustainability on a regular basis and their research findings indicated that there was a growing demand for universities' OS engagement among students, which seemed to be a motivating factor for universities in England. Based on their sustainability skills student annual survey reports, the NUS pointed out:

> *"Our findings demonstrate the strong student demand for sustainable development, and help us to find the most effective ways of driving positive change on sustainability. ... This research has been integral in developing our work across the education sector and student movement… For eight years in a row, around 80 per cent of students have told us that they want their institutions to be doing more on sustainability, and around 60 per cent want to learn more about it"*. (The NUS, 2019b)

Further, a participant perceived the higher expectations of the next generation of students (as a source of legitimacy) regarding universities' sustainability commitments:

> "*What would be interesting is to see how the cohort of students changes because the expectation is that the next generation that is just coming into university life is going to be much more demanding in terms of sustainability credentials than maybe the current situation. It would be interesting to see how that pressure plays out on universities*". (Interviewee 7)

Maintaining legitimacy with students for managing organizational image/reputation, recruiting students and generating tuition fee income

University fees for undergraduate students in England increased from £3290 to £9000 per year in September 2012 (many postgraduate student tuition fees increased as well) under a new higher education funding system. It significantly decreased the teaching grant provided to universities by HEFCE. At the time of the research, universities heavily rely on student tuition fees as their main source of income (approximately

70-80% of total income for many universities), and so students' demands (as paying customers) matter to them. Universities are aware of the fact that their OS performance has become a concern, especially when students assess and decide which university they want to enrol in and pay tuition fees to. This in turn impacts their organizational financial interests directly. For instance, a participant pointed out:

> "*I think it was around three-quarters of our direct funding coming from HEFCE, but because they moved away from that model, now almost all the money comes from individual students through the loan scheme. That's how we tend to get most of our money, through that process or from international students as well. ... if you got a lot of money and you're willing to give it to universities, universities are the same as many organizations, are more willing to listen and perhaps make changes if they know it's going to make it easier for them to access funding*". (Interviewee 5)

By maintaining legitimacy from students, in return, universities could protect or even further organizational self-interest such as managing organizational image/reputation, branding, recruiting students, and (ultimately) generating student tuition fee income. In this respect, to some extent, OS activities are used instrumentally as means of establishing legitimacy with students. A large proportion of interviewees recognized this view. For example:

> *"From the point of view of students and customers, the university is obviously keen to take on as many students as it can. It wants to give a positive message about all aspects of the university. The environmental team would try and go along with that and support those aims".* (Interviewee 6)

> "*The universities who have invested in sustainability probably did make sustainability a marketing choice to say "this is something we strongly believe and we want to invest in sustainability", [so that] they have a different position*

in the higher education market. [...] I think before you could do a very good education, don't talk about sustainability, and you can still have many students. I think that today and more tomorrow, you need to have very good education, but if you do not do sustainability, you will lose some students". (Interviewee 15)

Particularly, according to many respondents, universities' benefits for performing well in the People & Planet University League Table are perceived to be branding and attracting students. As interviewees explained:

"There are also benefits in terms of reputation and also performance in relevant league tables and benchmarking exercises as well. Universities' Vice-Chancellors always love a league table. They always want to appear near the top rather than near the bottom. If we can do that and address sustainability on campus, that helps us in those benchmarking and promotion in terms of our own reputation, which in turn could improve our chances of recruiting students to come to our university." (Interviewee 5)

"*League Tables helps with the PR [public relations] side of thing... initially, when they came out it was a driver to make sure that you could argue with universities to get things changed... there is still that driver if you don't want bad press*." (Interviewee 8)

Participants were aware that a university's poor performance in such sustainability rankings would undermine its reputation/image - how stakeholders viewed it in comparison with its peers - and would threaten its organizational legitimacy.

4.3.2.2.3 Maintaining legitimacy with the media and the general public and benefiting organizational self-interest

Large organizations such as universities are likely to be exposed to the media and the public. There was a perception that the media and the general public were increasingly concerned about OS issues as universities continued to expand their campuses and estates (at least prior to COVID-19). Relatively large and visible organizations like universities are expected to show more OS engagement and be prepared to justify the social and environmental impact of their growing operations because of media and public pressures. Media reports and criticisms about social and environmental problems and incidents associated with other organizations, especially other universities, could be warning messages for a university to take measures in advance to avoid similar mistakes.

The evidence from this study shows that universities, as large organizations with underlying social values and missions, understand the necessity of maintaining social support and acceptance from various types of media and the general public. These findings are congruent with prior literature that organizations gain support from sources of legitimacy like the media and the general public (Deephouse et al., 2017; Deephouse and Suchman, 2008). Universities engage in OS activities so as to maintain legitimacy with the media and the general public, thereby benefiting organizational self-interest, such as (directly) protecting organizational reputation/image and (indirectly) helping to recruit students.

A number of participants perceived that the media significantly influence public expectations. Therefore, maintaining legitimacy with the media is essential to the development of a good relationship with the wider society. Universities have to respond to news media reports to protect organizational reputation. For instance:

> "*Media definitely has a massive impact on what the general public is going to read and then setting their expectations on what they'd expect organizations to do*". (Interviewee 10)

"*[speaking of] news media, I am thinking about reputation. When something is reported in the media about our university or other universities, it will no doubt be picked up within the university. Then, the university has to decide whether or not it's going to address it in a specific way*". (Interviewee 6)

On the one hand, from the perspective of a university's top management, OS initiatives can be used to gain positive media publicity and, in turn, draw students' attention and attract their interest in the university. Some interviewees illustrated:

"*An example is [name of university], which is one of our neighboring universities. They have just agreed on a green new deal, which sets out some quite challenging and inspiring targets. Again, if that has good news coverage and the sector really highlights and identifies that, then that would probably have some influence over our senior management team, and they would probably want to think carefully what's our response to that. ... if some of these issues are a bit more newsworthy or have more longevity in the news, then students are a bit more aware of some of these things...*". (Interviewee 4)

"*If that's the good publicity, then it is helpful to the reputation of the university. I think it's good to get recognition for some of the sustainability initiatives that you carry out. We would work quite closely with our marketing and communications team. If there was anything which they thought was of interest to local newspapers, then maybe they would get in touch with them*". (Interviewee 13)

On the other hand, the evidence indicates that part of universities' rationale for OS activities is to legitimize their operation in the eyes of the media and the public. Failure to engage in OS could give rise to adverse media publicity and possible reputation damage. And negative organizational reputation/image could in turn undermine potential funding opportunities and student recruitment. For instance:

> "*FHE [Further and Higher Education] institutions' responses to climate change are increasingly a factor in their Social Licence to operate. Reputational damage is a real possibility if the public perceives conduct in the face of climate change to be lacking, with flow-on effects for funding and recruitment.*" (EAUC, the Higher Education Business Continuity Network, and AECOM, 2019, p. 9)

> "*It's significant because if you have bad news coverage, it affects you significantly. For example, I'm a student, I'm almost clearing and I want to go to [name of the university] and probably something comes up about [name of the university] that they have done something that is bad, then I have to reconsider my decision. Should I really go to [name of the university] or should I go to a different university? Media coverage has a lot of impacts*." (Interviewee 12)

To summarize, it seems that the perceived sources of legitimacy with power in this context are the government, students, media and the general public. To some extent, sample universities try to conform to social rules, norms and definitions concerning their OS practice and performance, in return for ensuring their different organizational self-interest. This situation can be explained by legitimacy theory, which emphasizes the relationship between an organization and its relevant constituents upon which it depends for various critical support (Deephouse et al., 2017; Ashforth and Gibbs, 1990).

4.3.2.3 The interplay between seeking pragmatic organizational self-interest and moral legitimacy for substantive changes towards sustainability

From a managerial point of view, Ashforth and Gibbs (1990) point out that organizations may seek legitimacy by applying two kinds of approaches: substantive legitimacy management and symbolic management. Substantive management involves real, material changes to organizational objectives, structures, processes and strategic priorities. In this perspective, organizations will actually respond to the demands of their stakeholders. Regarding symbolic legitimacy management, organizations seek to appear consistent with social expectations, without fundamental changes to themselves. Ashforth and Gibbs (1990) argue that, in some instances, organizations might engage in ceremonial conformity with an emphasis on superficial impressions. These symbolic activities may portray the image of organizational conformance without substantive changes.

This section focuses on, in the process of OS engagement, how universities' practical self-interest interacts with the pursuit of moral legitimacy to substantively transform them towards sustainability, and how they respond to maintain legitimacy with influential stakeholders. Universities confronted a variety of tensions and even conflicts between pragmatic organizational interests and moral legitimacy for OS positive changes. In many instances, pragmatic considerations prevailed, so the universities had to make compromises. As a consequence, those compromises undermine the attainment of moral legitimacy (O'Dwyer et al., 2011).

This research also shows that, in many cases, universities use OS activities as strategic tools for managing legitimacy in a symbolic and instrumental manner, offering superficial impressions of OS engagement. The substantive responses and real impact on actual OS performance are limited. Notably, symbolic management may not lead to substantive changes in universities' OS - no material 'whole institution' changes to the core organizational operations/systems and existing main organizational goals and priorities (see Ashforth and Gibbs, 1990).

4.3.2.3.1 Limited substantive activities especially when sustainability demands are consistent with organizational self-interest

In the past decade, some incremental improvements have been made in certain areas relating to universities' OS (see Shiel and Williams, 2015), in an effort to meet the expectations of some powerful stakeholders. The majority of universities have complied with government planning permissions and building regulations, and emphasized decreasing the social and environmental impacts of their operations accordingly. In some of these cases, universities seemed to have adopted substantive legitimation approaches, especially when demands for sustainability were in line with organizational practical self-interest.

As examples of substantive legitimation approach, many English universities have improved OS in connection with buildings. As some universities disclosed on their websites:

> "*Since 2010, the university has invested more than £3m in projects that have reduced both our energy consumption and carbon emissions. These projects include the installation of new efficient gas boilers, the development of a Combined Heat and Power energy centre, the replacement of inefficient lighting systems and improved insulation amongst others and are expected to deliver lifetime carbon savings of over 35,000 tonnes*". (Keele University, 2021)

> "*The university's direct [carbon] emissions have reduced by 44 per cent since 2005, despite an increase in campus size and student numbers. This was helped by a £4.8 million investment since 2015 in a range of energy efficiency measures for campus and residences buildings, including upgrading Building Management Systems, installing LED lights and advanced lighting controls, fitting solar panels, insulating pipes, or replacing boilers and chillers*." (London School of Economics and Political Science, 2021).

These organizational actions seemed to display substantive features: role performance and coercive isomorphism (Ashforth and Gibbs, 1990). In this context, role performance means actually adapting the methods of operations to meet the social expectations for cutting energy consumption and carbon emissions associated with building operations. Coercive isomorphism involves conforming to the energy reduction aspects of building regulations. Campbell (2007) also suggests that investing substantial resources in a problem shows that it is taken seriously.

However, the results of this study indicated that universities engaged in these building energy consumption reduction activities, mainly because such activities have demonstrated the self-serving benefits of minimizing compliance risks, financial saving and operational efficiency improvement. Both document and interview evidence noted this point:

> "*Part L of the Building Regulations sets out requirements for energy efficiency and the effective control of buildings and associated plant. These regulations apply to both new buildings and refurbishments, controlling factors such as the insulation values of building elements, air permeability of the structure, heating efficiency of boilers, and lighting efficiency. Part L guidance is currently the major driver for the increase in energy efficiency and carbon reduction in new and refurbished buildings*." (University of Gloucestershire, 2018, p. 8)

> *"Whether that's through the building work we're doing, or other elements that we do to improve, make our campus operations more efficient because that goes back to an economic argument, which is that, if we can demonstrate that what we do delivers tangible financial benefits, then we're more likely to be allowed to do that again in other initiatives"*. (Interviewee 7)

These findings are in line with the legitimacy literature (Ashforth and Gibbs, 1990; Suchman, 1995; Oliver, 1991). In this context, building regulations, requiring a reduction in carbon emissions and energy consumption, were perceived as such coercive isomorphic mechanisms which may give rise to some organizational conformity with OS-related demands. However, substantive responses in certain areas of OS do not necessarily mean substantive OS actions were taken across the full range of universities' core operations. Apart from the compliance with building regulations and improving the energy efficiency of buildings, the research indicates that substantive engagement in other areas of OS is limited. There is little evidence of material, overall transformations that took place in the whole institution in various OS-related areas (see Sharp, 2002) - delivering the socially expected outcomes and achieving consequential (moral) legitimacy at a broader level.

It seems that, for the OS-related demands that were compatible with pragmatic considerations for organizational self-interest, some universities were likely to conform and make efforts. However, whether such compatibility substantively reinforced moral sustainability legitimacy in the long run, remained questionable. For example, as one of the participants noted, universities had completed short-term 'easy payback projects' and done 'quick wins' first (compatible with pragmatic organizational interests like cost savings), but many difficult, expensive and long-term projects, which could not demonstrate instrumental benefits, had not been finished. As a result, OS progress has become slower than societal expectations.

> "*I do have some quite strong feelings on this. When I first came into this business, the perceived wisdom was that you do all of the quick wins, easy payback projects first in order to demonstrate that you're making savings and to build confidence in your senior management and to get to reduce emissions as quickly as possible. However, the consequence of that is that it leaves you with all of the difficult to do projects with long paybacks together to do. It makes them even more difficult to complete because they're all more and more expensive*."
> (Interviewee 10)

From a critical perspective, throughout the study, the researcher found limited evidence indicating substantive legitimacy management actions in this setting. Having discussed the limited substantive OS responses when there appears to be consistency between sustainability demands and pragmatic interests, this study now turns to the analysis of conflicts and organizational compromises (particularly in the form of symbolic OS engagement).

4.3.2.3.2 Compromises (symbolic legitimation) when confronting conflicts between pragmatic organizational self-interest and moral legitimacy for sustainability

Moral legitimacy for sustainability is based on an organization's actions for meeting normative expectations for the good of the wider society and environment (with prosocial, altruistic grounds) in the long run, as opposed to seeking narrow, self-serving benefits for itself in the short term (Suchman, 1995). In the course of OS engagement, universities faced a variety of tensions and even conflicts between pragmatic organizational self-interest and moral legitimacy for substantive changes towards sustainability (see Suchman, 1995; Ashforth and Gibbs, 1990). In this regard, pragmatic concerns included organizational expansion (in buildings and facilities, increasing student numbers or income), obtaining funding or saving costs, and managing organizational reputation/image (gaining positive publicity and branding), etc. In many cases, self-serving pragmatic considerations prevailed over social and environmental accountability, so universities had to make compromises. As a consequence, those compromises may undermine the pursuit of moral legitimacy for OS.

When encountering conflicts between relevant stakeholders' expectations and organizational self-interest, organizations are likely to adopt compromise approaches by showing partial conformity with constituents' demands while ensuring internal interests and/or by appeasing constituents (Oliver, 1991). To maintain legitimacy, organizations may "simply portray - or symbolically manage - them so as to appear consistent with social values and expectations" (Ashforth and Gibbs, 1990, p. 180). Examples of symbolic legitimacy management include: espousing socially expected goals but actually accepting less socially desirable ones; providing excuses to reduce negative effects on organizations; and ceremonial conformance with emphasis on displaying symbolic, superficial impressions, etc. (Ashforth and Gibbs, 1990).

4.3.2.3.2.1 Compromises (symbolic legitimation) when organizational expansion conflicts with pursuing moral legitimacy for sustainability

Almost all interviewees mentioned that they experienced tensions between organizational expansion and moral legitimacy for promoting ecological sustainability. Often, there were perceptions that expansion/growth in buildings and facilities, student numbers and/or income were given priority over reducing the environmental impact of universities' operations, particularly carbon emission and energy consumption reduction. When facing conflicts, universities had to make compromises. The adoption of symbolic legitimacy management actions (Ashforth and Gibbs, 1990), such as emphasizing relative rather than absolute carbon reduction performance indicators and the use of organizational growth as excuses for not meeting absolute reduction targets set by the government, reinforced the 'business as usual' practice at universities, without them making material changes towards OS (see Bebbington et al., 2009; Unerman and Bennett, 2004).

As many interviewees illustrated, organizational expansion often clashed with OS and universities had to compromise in different ways to reconcile various tensions. In some cases, OS was not put at the forefront by the organizations being studied. Participants realized that they could not change the fact that organizational expansion was the strategic priority; what they could do was to find other areas of their university's operation to somehow offset the significant increase in negative environmental impact arising from such growth. Consequently, campus buildings, facilities (including student accommodation), student numbers and tuition fee revenue continued to grow, adversely impacting environmental sustainability in the long run. Participants shared their views and experiences in this regard:

"*But the fact is the way universities are trying to grow, trying to recruit a certain number of students and improving the facilities all the time is often at odds with sustainability… I'm a little skeptical that the university, or any university, really wants to put environmental considerations right at the forefront [...] there is a great [environmental] cost to producing new facilities, new buildings ... it's hard to say what the benefits are to the environment in the long run*". (Interviewee 6)

"*We invested quite a lot of money in new buildings and major refurbishment. As a result, we lost quite a lot of trees on campus. There was the need to build these buildings and they were in green space with trees and they lost the trees. That was the economic reason because we got funded to build these buildings. We had to leave the trees which provide that environmental and social benefit. There was tension there and we did receive a lot of negative feedback from staff, students, external communities and external bodies*". (Interviewee 17)

Universities are expected to reduce their Scope 3 indirect greenhouse gas emissions (e.g. deriving from travel and procurement supply chain). Importantly, interviewees mentioned that, for practical reasons, the inclusion of Scope 3 reduction was compromised, for example:

"*We have reduction targets for Scope 1 and Scope 2 and also reduction target for Scope 3. When we took our paper to our decision-making group around the target for Scope 3, we did include projections around increases in international students. There was a discussion with the senior management group to say that we know this is part of the university strategy, we know we're going to be recruiting more international students…. If our emissions in that particular area are going to go up, ... [then] We need to work even harder in other areas to reduce and offset those emissions*". (Interviewee 5)

Similarly, a university sector-wide OS-related professional consulting project report also pointed out such conflicts and compromises:

> "*The principal challenge is a tension between commercial growth and emissions reduction…. Success of UK universities has meant considerable growth in revenue and student numbers. ... Significant campus expansion has also occurred in the UK and overseas. Universities have seen growth in energy intensive research activity. Increased competition has also seen investment in new student facilities including on-site accommodation…. Tensions between capital cost and whole life cost mean ambitious [sustainability] plans for new buildings are often compromised*" (Brite Green, 2016, p. 5).

Under these circumstances, OS-related managers had to give way to the prioritized organizational growth and universities only showed limited OS engagement. Organizations make compromises, partially meeting or accommodating the social expectations of making OS progress, while leaving the prioritized expansion (in multiple dimensions) unaffected (see Ashforth and Gibbs, 1990; Oliver, 1991).

With regard to the tensions between organizational expansion and moral legitimacy (especially the consequential legitimacy), an interesting theme is associated with the issue of expected absolute vs relative carbon reduction. According to People & Planet (2019b), "*... 154 UK universities ranked on their sustainable development and only a third are on track to meet carbon reduction targets in 2020*". Therefore, a legitimacy gap between the actual organizational OS performance and the demands of the government and other related stakeholders emerged. In order to handle this problem and narrow such legitimacy gap, excuses were offered by the universities with a view to justifying their failure to accomplish the government's absolute carbon reduction targets: significant growth in various aspects.

Universities had to employ alternative performance metrics, so that the organizational reputation (e.g. as a perceived good performer in greenhouse gas reduction and responsible university taking OS issues seriously) could not be damaged. As a result, they often emphasized relative carbon performance indicators (i.e. relative carbon reduction results compared against increases in buildings, facilities, student numbers or revenue), showing that the organizational practices appeared to be not far from the expectations of the government and society relating to carbon reduction, and explaining to the stakeholders about the appropriateness of adopting the easier, more achievable relative carbon targets - a compromise response and symbolic approach to maintaining organizational legitimacy.

For instance, one university noted in its documents: "*It is clear emission reductions are not on target and this is due to estate and university activity expansion."* (University of Worcester, 2016, p. 1). It continued to explain: *"The university sits within the bottom quartile of these tables which are based on Scopes 1 & 2 (see para 9 below) carbon. When reviewed against our institutional targets to meet the sector target of a 43 per cent reduction in carbon emissions by 2020 against a 2005 baseline, so far the University due to its continued growth is failing to meet them*". (University of Worcester, 2016, p. 4)

A further explanation was provided in this document:

> "*The table below shows a 61% increase in total in income, a 51% increase in gross internal area and a 32% increase in the full time equivalent staff and students, demonstrating university growth over the past period. When carbon emissions from energy are compared against these metrics it is clear that energy intensity decreased significantly across the university from 2008/9 to 2014/15. Given the growth the university has experienced since 2008/9 the trend in carbon emissions is to be expected, and the absolute targets will be challenging to meet"*. (University of Worcester, 2016, p. 10)

Such relative carbon reduction targets in effect mixed organizational expansion with OS figures. By contrast, absolute targets are the essential ones for actual OS progress. Meeting absolute carbon reduction targets is consistent with consequential (moral) legitimacy. Consequential legitimacy should be pursued by achieving and proving the outcomes in terms of decreasing environmental and social impacts. In the process of maintaining moral legitimacy, organizations should try to comply with normative sustainability principles instead of focusing on their own pragmatic self-interests or those of their influential constituents. Hence, such legitimation activities centre on society's moral evaluation of actual results that universities produce in terms of taking care of the society and environment. An interviewee perceived that using relative carbon reduction targets had some elements of symbolic, superficial engagement:

> "*If you had a baseline, a target for carbon [against] 200,000 income, and then tuition fees increased hugely, then obviously it's going to be a lot easier to achieve that. ... if you have a target per student, or pay a hundred thousand income then [it fails in] decoupling growth from carbon emissions. It feels like it's getting a bit too clever. Then in the daily carbon emissions, we need to reduce them absolutely, whether or not it's per a hundred thousand income or per student whatever. We need to reduce just absolutely everything. ... It [relative reduction target] probably is a bit superficial*." (Interviewee 13)

A professional association also criticized in its document: "... *relative rather than absolute targets will always be more achievable for institutions which are rapidly growing*… (EAUC, 2017, p. 5)

In order to prevent their organizational reputation from being negatively affected, the universities made themselves appear to adhere to the social expectations by adjusting carbon reduction performance indicators and emphasizing less challenging relative ones. As a result, universities had to accept the 'reality' that their continued organizational growth prevailed over carbon reduction and adopted the flexible relative carbon emission performance indicators to explain or justify their failure to achieve more substantive and meaningful absolute reduction targets (as many stakeholders had truly expected).

It is also worth mentioning that, even though the University of Worcester was highly ranked in the University League in terms of its overall sustainability performance (People & Planet, 2019a), it still faced such conflicts. Furthermore, only a small number of universities, like the University of Worcester, were brave enough to publicly disclose that they temporarily did not achieve absolute reduction targets during that period. In contrast, some universities only reported limited actual carbon reduction performance information to the general public. However, such failure has been noted and criticized by the relevant external stakeholders. A legitimacy gap has not been closed. For example:

> "*Despite the introduction of initiatives to reduce carbon emissions and invest in sustainable energy, higher education institutions claim that an era of expansion has hampered plans to make the sector more environmentally friendly. ... Sustainability consultancy Brite Green analysed the emissions of 127 universities in England and found that the majority (76%) are due to miss the target of 43% reduction across the sector by 2020,... Yvonne Hawkins, Hefce's director of universities and colleges, defended the sector, claiming that the targets did not take account of "significant recent growth in university estates and student numbers*". (Lock, The Guardian, 2015)

Notably, one participant expressed his concern about the conflicts between organizational expansion/growth and consequential moral legitimacy for OS, and made the following comments:

"*Whereas the economic considerations may be very important, the environmental considerations may be similarly important, so in most cases, I think there is a balance to be struck. ... it's very much a personal view, I think long-term sustainability issues arise is because people are too blind to see that growth can't go on forever. Growth really is an enemy of sustainability.*" (Interviewee 6)

These research findings are consistent with the view of Oliver (1991) that organizations make compromise responses by showing relative carbon reduction compared against the organizational growth figures to pacify the relevant stakeholders. Furthermore, these compromise responses may reflect some forms of symbolic legitimacy management (Ashforth and Gibbs, 1990): espousing socially expected goals (e.g. supporting the government's absolute carbon reduction targets) but actually accepting less socially desirable ones (e.g. more flexible, easier but less substantive relative carbon emission targets); and the use of organizational growth as an explanation/excuse to reduce the adverse effects on universities' reputation or claims to legitimacy. Accounts were provided to reduce negative perceptions resulting from a university's lack of action.

More importantly, considering the fact that two-thirds of UK universities have not significantly reduced their absolute carbon emissions (and for those universities that decreased absolute emissions, the Scope 3 indirect carbon emissions were not completely integrated into their measurements), such legitimation approaches may provoke tensions between pursuing moral legitimacy for environmental sustainability and protecting pragmatic benefits for universities (e.g. continued growth and organizational reputation), and even compromise the attainment of moral legitimacy (especially consequential legitimacy - delivering socially accepted outputs) (O'Dwyer et al., 2011). That is to say, in these cases, such passive, to some extent symbolic legitimacy-seeking behavior was primarily motivated by pragmatic considerations; narrow organizational self-interest was the priority over moral ideals for sustainability (decreasing carbon emissions and minimizing the environmental impact of the universities' operations).

4.3.2.3.2.2 Managing organizational reputation through symbolic OS engagement conflicts with moral legitimacy for sustainability

As discussed previously, various types of media, such as newspapers, magazines, videos and television shows, and social media, play active parts in shaping the opinions of the public (especially students in this context) about sustainability issues and movements in general and universities' OS practice and performance in particular. On the other hand, media could be used by universities to inform and influence people's perceptions about their organizational OS achievements and contributions. In this light, it may be viewed as a communication strategy to increase their organizational legitimacy.

Some interviewees perceived that, sometimes, using OS activities to seek positive media publicity and market universities clashed with genuinely maintaining moral components of legitimacy for sustainability. In balancing the incompatibility between these two goals, universities' efforts to truly embrace OS were compromised. In many cases, seeking positive publicity and branding prevailed and hampered the long-term development of moral legitimacy.

The following sections provide several typical examples of symbolic legitimacy management in connection with OS as compromise responses and analyze them in detail. Such OS activities were employed as means to mainly seek positive publicity and branding, thereby superficially and instrumentally gaining legitimacy. However, these symbolic management activities merely provided the appearance of engagement without substantive progress in organizational OS.

According to one participant, a university arranged an electric vehicle which students were recruited to drive around the streets at the end of the year and collect rubbish from student residences. However, this small project made almost no difference in actually improving waste disposal on campus, as perceived by the interviewee:

> "*I've come across a few projects like that in the past where there have been publicity things. ... Actually, in terms of what they achieved in the rubbish collection, it was very small, smaller than a typical cams tensile refuse vehicle.... [however] It achieved a huge amount of publicity. It's in all the papers and there are pictures of our students all over the place. ... When I asked for the stats on the weight of the rubbish we collected, it was negligible. ... My question was what are we getting out of it? The answer was lots of publicity. Environmentally, it is doing nothing."* (Interviewee 6)

He commented that the main rationale for such symbolic OS engagement was actually to seek positive publicity - a public relations exercise. And the media was used by the university as means to influence people's perceptions about its OS performance, thereby increasing organizational legitimacy:

> *"We just could do this totally quietly, send the van around, we employ one person, it could collect 10 times as much by themselves over a few weeks. It wouldn't be of any interest to the papers. That's the thing that I probably I'm not very impressed by. In terms of public relations exercise, it was really top notch. ... I found out there was a team who were talking about franchising out this idea and they were nothing to do with an environmental team. They were publicity people. That, once again, is an example of how media can influence things but not necessarily in a very beneficial way."* (Interviewee 6)

As another example, a peer university launched an OS-related project regarding its catering services; the interviewee perceived it as symbolic OS engagement and even 'greenwash'. He thought that the university purposefully undertook easy, quick-win OS activities so as to attract media attention and enhance organizational reputation in the field of sustainability. However, behind the scenes, the university failed to address many difficult, less visible and long-term OS-related issues. From an external stakeholder's perspective, the People & Planet University League table (2019a) also confirmed the overall ranking of this university was low. As the participant explained:

> "*... it attracted a lot of press when they made that announcement. If you look at the detail of what else [name of university] has achieved in sustainability, is a poor performer. It seemed to be the worst example of greenwash because, I think superficially, you now recognize [name of university] as a leader of sustainability, when in fact the track record and the difficult decisions around sustainability and dealing with the complexity they avoided, and they went for a press release. ... the greenwash in the sector tends to focus on the quick win. ... something that normally attracts a lot of attention*" (Interviewee 18)

The interviewee then stressed the potential dangers associated with an organizational emphasis on such symbolic legitimacy seeking behavior. The university tended to pay less attention to challenging, complex and long-term issues which may give rise to substantive changes, because they cannot be used to gain positive publicity quickly and easily. If the media and the public find out the university focused too much on organizational image/public relations enhancement exercises but avoided tackling fundamental OS-related problems, the improved organizational reputation is likely to be questioned, so symbolic legitimation activities may be double-edged. Superficial activities may hinder the development of the moral dimension of legitimacy of universities:

> "*I think there is a danger that if you want to make a sustainability splash, you focus on the things which probably don't deliver that much true carbon emissions savings. [...] we believe that's a bigger impact, a sustainable long-term right*

thing to do, but that was a difficult conversation. If it's easy, I think I tend to smell a rat." (Interviewee 18)

He further elaborated: "*People, once I move beyond [name of the project], they are interested in procurement, they are interested in biodiversity, they are interested in transport plans, carbon footprint. [name of the project] maybe a quick sound bite, it is easy to communicate, but I think the second stage enquiry, their media team have to deal with. "Why they are not doing this? Why they are not doing that?" It is harder for them to respond to...*" (Interviewee 18)

This view was also confirmed by many other participants. For instance, two interviewees illustrated that such symbolic engagement primarily for organizational reputation management did not result in positive changes towards OS substantively - the ideals for moral legitimacy - in different areas, such as an allotment for growing local food plants or ethical banking/investment:

"*One example was, we were putting a lot of pressure on a catering supplier to do a lot on sustainability. The project that they came up with was supplying mini allotments for staff and students, which was a really nice idea, but I think it became quite tricky. I think people loved them at the beginning and then went off them, and said they didn't maintain them. They brought in a celebrity to judge the allotments and they flew the person that won the competition to go and see a water well in Africa. It's just quite greenwash to me. [...] I think, it was along those lines [mainly for PR].*" (Interviewee 14)

"*... with sustainable procurement and ethical banking for instance, particularly with banking, the changes that have occurred in the university sector are all about protecting reputation. Although there has been some movement, when you actually read the policies of universities, the policies don't actually say very much. Not much has actually changed, but the mood music has changed a little* *bit. So I still think there is a long way to go in ethical investment in the sector"*. (Interviewee 10)

These interviewees' illustrations suggest the adoption of ceremonial conformity symbolic legitimation approach. These research results are in line with the view of Ashforth and Gibbs (1990) that symbolic legitimacy management activities portray that the organizational actions appear to conform to social expectations. However, such ceremonial conformity, emphasizing superficial impressions, made no substantive OS changes at a deeper level.

4.3.2.3.2.3 Compromises when making investments and saving costs conflict with moral legitimacy for sustainability

All interviewees mentioned they encountered conflicts between organizational focus on short-term investment payback periods (particularly from the finance department and/or top management) and undertaking long-term, large-scale sustainability projects which may potentially bring about substantive changes to university operations. In addition, many sustainability issues, such as sustainable procurement and fairtrade, ethical banking and investment, may not generate direct financial income or saving while they incur extra costs. When facing tensions, managers responsible for OS had to make compromises. In many cases, a short-term focus on tangible financial benefits prevailed and hindered the long-term development of the moral component of legitimacy. For instance, interviewees noted:

"*We have run projects with a payback period of longer than that, but that is quite a difficult conversation to have sometimes, because finance departments and senior managers don't tend to look over five years, they will look for payback on a shorter period [...] The short-termism in a lot of cases in terms of investments I think is also a barrier to investing in larger scale projects, especially in relation to energy and carbon emissions*". (Interviewee 5)

"… with something a bit more long term, for instance, if I was to say, "We could save a lot of energy by additional insulation in plumbing buildings." You could be talking about the cost of several million pounds and a 25 to 50-year payback. It's the sort of thing that would probably get put on the back burner really. It would be more difficult to take something like that through…" (Interviewee 6)

As another example, when promoting the procurement of fair trade products within universities, some respondents commented that they experienced tensions between obtaining direct financial benefits and moral legitimacy for engaging in fair trade - socially expected as 'the right thing to do'. On the one hand, some fair trade products might be slightly more expensive than non-fair trade commodities, because they placed more emphasis on the workers' rights and sustainable processes of production and purchase in the universities' global supply chain. On the other hand, university divisions, such as catering, had to generate income. Further, there were membership fee costs for gaining accreditation and being supported by fair trade organizations. As a result, some universities might be reluctant to make a full commitment to fair trade consistently, because these activities could not demonstrate direct economic benefits for them. For instance:

"*... sometimes fair trade products do tend to be slightly more expensive than non-fair trade items. That's a difficult conversation to win, especially with the catering teams who are looking to ensure that the university generates an income from its catering.*" (Interviewee 5)

"On an ethical level, I think it's something we should be doing. The university is quite happy to support it, but if it came to the crunch and there was a significant cost, then the university, particularly in the present climate, might be saying, "Why are we doing this and do we have to do it?" The answer, of course, is no, we don't have to do it. It's reputation. It's what the people at the top think.

Ethically is good, necessary and desirable, but it can change from year to year in some of these areas". (Interviewee 6)

To some extent, it could be argued that these compromise responses may reflect some elements of symbolic legitimacy management (Ashforth and Gibbs, 1990): espousing socially expected goals (e.g. publicly supporting the concepts of long-term OS investments and fair trade - the moral ideals of sustainability) but adopting less socially accepted ones (e.g. short-term focus on OS projects within five-year payback periods and reluctant or inconsistent engagement in fair trade). These processes may be symbolic in nature; a symbolic engagement seems to adhere to societal values and expectations but does not substantially change organizational operations.

4.3.2.3.2.4 Further analysis of symbolic legitimacy management and lack of substantive changes towards sustainability

This study unveils that, in many cases, universities undertake OS activities symbolically to manage stakeholder perceptions on organizational OS engagement and maintain organizational legitimacy, with limited substantive impact on operations. In some areas of OS, some universities sought legitimacy in a symbolic and instrumental manner to strategically use OS activities as a means to pursue organizational interests/resources for competition. When discussing these issues, "lip service", "greenwash", "superficial" or "quick win" were some of the words/phrases frequently mentioned by both interviewees and document data sources, indicating perceived symbolic engagement. For instance, "*Some may be doing it [OS statements] for lip service…*" (Interviewee 4). Similarly, another participant noted: "*Let's say there's probably a bit of that going on. I wouldn't go as far as saying it's greenwash. I would say that there are some high profile statements or activities that take place without addressing the root cause of sustainability issues within universities*". (Interviewee 5)

In the higher education sector-wide sustainability survey reports, some respondents commented:

> "*The whole institution pretty much ignores the sustainability agenda and will occasionally pay lip service to certain aspects.*" (EAUC, NUS, University and College Union, Association of Colleges and the College Development Network, 2017, p. 52)

> "*Environmental sustainability is used as a marketing tool. There is no meaningful staff and student participation in the development and implementation of these policies. The tick boxes are therefore just that, because unless staff and student bodies own the idea of sustainability and commit to it, it will never be something that contributes to sustainable environmental change. ... Leadership are only concerned with superficial actions that result in good PR rather than long term last changes*." (EAUC, NUS, University and College Union, Association of Colleges and the College Development Network, 2019, p. 28)

Notably, this study also reveals that, in many aspects of universities' campus operations, substantive and long-term transformation towards sustainability has not yet happened. The important feature of substantive legitimation is that the organization has taken concrete actions and significantly changed organizational goals, structures or operations. Different participants expressed their perceptions:

> "*You never really see a big [sustainability] change because ... they've all got their own different intentions. You just see snippets of change but there's no one really driving it. Even though they've got 10 staff in sustainability but it [the sustainability change] is not widespread*". (Interviewee 8)

> “*I think that's the main reason and that's why it's getting tricky as time goes on when you've done all the low-hanging fruit, then move to that next stage of it being slightly beyond the financial saving to the environmental benefit. To date, it's all been very much an operational financial saving, but it's zero-carbon - we're not going to get there without significant investment that won't necessarily payback in the short-term...*” (Interviewee 17)

One participant took this issue further and argued that, given the existing organizational priorities and university operational model, it is very difficult to make substantive changes towards true sustainability:

> “*I'd say there's been a bit of that going on, I think. If you want to call it grandstanding ... We all have to be careful when we're making claims about and how sustainable we are, … Fundamentals of a university don't lend themselves to seeking relative sustainability from an environmental perspective. It's always going to be a difficult sell in that respect. And you can't call yourself a sustainable university is a bit of an oxymoron, just doesn't exist and never will exist unless you have a [change] completely.”* (Interviewee 7)

These observations concur with the previous literature (e.g. Jorge, 2015; Milutinovic and Nikoli, 2014; Lozano et al., 2013). Scholars contend that the widespread ‘whole institution’ changes are lacking in the field of university sustainability. While many public universities in England have got involved in OS and developed sustainability policies, committees, working groups and offices for more than a decade (Shiel and Williams, 2015; Waheed, 2017c), such processes may be used to obtain procedural (moral) legitimacy, at the early stages of development, by following the proper procedures (Soobaroyen and Ntim, 2013). However, if organizations do not link these policies with systemic and rigorous compliance monitoring and sanctions, and committees and offices are small scale and have no sufficient power, they become less significant to move OS forward now, as perceived by interviewees, and almost no interviewees associated the current use of these procedures with substantive OS changes.

In summary, this part of the analysis reveals the conflicts between organizational practical self-interest and moral legitimacy advocating 'whole institution' fundamental OS changes. In many cases, universities made compromises when confronting such conflicts. As compromises, they sometimes engaged in symbolic legitimacy management when organizational expansion or organizational image management clashed with pursuing moral legitimacy to do the right things (consequential legitimacy) and in the right ways (procedural legitimacy) for substantive organizational transformation towards OS. Using OS as a means to seek legitimacy with influential sources appears to reflect the win-win business case for sustainability. Many interviewees indicated that they perceived organizational self-interest as the main motivation for OS engagement. The final template regarding the rationales for English universities to undertake OS-related activities, from the perspective of legitimacy theory, is shown in the table below.

Table 4.4 The template regarding the rationales for English public universities to undertake OS activities: legitimacy seeking and organizational self-interest

1. Many rationales associated with instrumental motivations for organizational self-interest	Emphasizing win-win business cases
2. Maintaining legitimacy with different sources of	2.1 Maintaining legitimacy with the government and benefiting organizational self-interest (e.g. mitigating compliance risk, obtaining funding and saving cost)

legitimacy, benefiting organizational self-interest	2.2 Maintaining legitimacy with students and benefiting organizational self-interest (e.g. managing organizational reputation and branding, recruiting students and generating student tuition fee income) 2.3 Maintaining legitimacy with media and the general public and benefiting organizational self-interest (e.g. managing organizational reputation/image and helping to recruit students)
3. The interplay (consistency and conflict) between seeking pragmatic organizational self-interest and moral legitimacy for substantive sustainability changes	3.1 Limited substantive responses especially when sustainability demands are consistent with organizational pragmatic self-interest 3.2 Compromises (symbolic legitimation) when confronting conflicts between pragmatic organizational interests and moral legitimacy for sustainability ● Compromises (symbolic legtimation) when organizational growth conflicts with moral legitimacy ● Managing organizational reputation and branding through OS symbolic engagement conflicts with moral legitimacy ● Compromises when making investments/saving costs conflicts with moral legitimacy ● Further analysis of symbolic legitimacy management and lack of substantive/fundamental transformation towards sustainability

4.4 Analysis and findings on barriers to universities' OS progress

Having examined the organizational rationales for undertaking OS activities, this part of the study focuses on research question two: What barriers are encountered by public universities in England while engaging in (campus) operational sustainability activities, and how do these barriers affect such activities?

Based on the themes emerging from the data, broadly speaking, barriers to the further engagement and advancement of OS in universities can be seen to exist at two different levels: organizational and (social) institutional. Organizational-related barriers are more internal and focus on issues such as organizational management/structure, organizational resources and cognition/organizational culture. Social institutional barriers exist beyond the individual university level and emphasize external stakeholders in the field, their interactions with universities, and the main negative impacts of the recent COVID-19 crisis on the sector and OS. In practice, some of these ‘analytically distinctive’ themes are inter-related and even overlapping to some extent. They are also connected with the rationales for OS engagement[15].

4.4.1. Organizational-related barriers

This part is divided into three sections: first, organizational management/structure-related barriers are explored; second, organizational resource/capacity-related barriers are analyzed; and third, cognition/organizational culture-related barriers are examined.

4.4.1.1 Organizational management/structure-related barriers

In the present study, the evidence shows that, in terms of organizational management/structure-related barriers, OS conflicts with some universities’ short-term economic interests. In many cases, OS does not seem to be a university’s

[15] This research does not attempt to cover all possible factors impeding OS progress; it reveals the main barriers as perceived by many participants.

top strategic priority. There is a perception that insufficient top management support for and commitment to OS could impede environmental and social development in their campus operations.

4.4.1.1.1 Inconsistency between long-term wider social and environmental impacts and organizational short-term narrow economic interests

The research indicates that OS is sometimes inconsistent with universities' financial interests. The organizational short-term economic focus and lack of long-term perspective were perceived to be the barriers. The long payback period and expected low economic benefits for organizations could demotivate universities with the cost reduction and income growth mentality (Velazquez et al., 2005) from making long-term OS investments, especially in the areas where there are no short-term direct economic benefits, such as sustainable procurement, fairtrade, ethical banking and investment, etc. Respondents found it challenging to make strong business cases for these OS-related activities and gain full support from university top management. This factor is closely linked with the universities' prevalent rationality for OS engagement, which often gives prominence to organizational pragmatic internal interests in the short run. Many participants raised this concern:

> "*Obviously, finance is always a barrier to that, financial priorities, and to what degree the university wants to fund environmental sustainability initiatives, because some initiatives, they have good returns on investment. ... Then some investments, they've got much longer payback or some measures actually with no financial incentive. I think that's the key problem*." (Interviewee 11)

> "*If the [OS-related] case's payback period is a lot longer, then the case is difficult to push. We've got quite strict budgets, so it's difficult to argue that needed to put something in*". (Interviewee 9)

Although some universities have occasionally invested in sustainability projects with more than five-year payback periods, a large number of participants perceived that universities' emphasis on project short-term financial paybacks constrained the long-term development of OS. For instance, an interviewee criticized:

> "*Whilst they [universities] are traditionally long-term institutions, I don't think they're necessarily always thinking long term about the financial decisions that they're making particularly based on there being five-year strategies. You have got VCs [Vice-Chancellors] in for certain amounts of time. Vanity projects that come up, the huge amount of money is spent on and not necessarily thinking about wider impacts*". (Interviewee 16)

The government survey report also confirmed that organizational OS progress was delayed when energy-saving programmes could not meet investment requirements, or the costs of OS initiatives outweighed the expected financial returns:

> "*Energy efficiency measures were also perceived as not being sufficiently profitable for a reasonable proportion of interviewees. Where this was the case the impact would be high, because there would be no means of sourcing funding if certain minimal financial thresholds were not met. ... The issues highlighted were often associated with the disruption caused through implementing a measure but beyond this were also concerns about ongoing hidden costs (associated with complex financing arrangements) and the difficulties associated with wider infrastructure-related upgrades required to enable a new technology"*. (Department for Business, Energy and Industrial Strategy, 2016, p. 102)

These findings concur with the relevant literature, which criticizes that an organization's focus on short-term return on investments and cost saving may discourage long-term OS investment (Avila et al., 2017; Verhulst and Lambrechts, 2015; Cagno et al., 2013). Such short-term economic focus makes it difficult to financially justify OS-related initiatives with long payback periods (Dahle and Neumayer, 2001). Resistance is likely to occur if an organization anticipates that adherence to institutional expectations does not provide sufficient economic returns. Organizations may be reluctant to conform to social expectations (in this context substantially investing in long-term OS projects) when they think these projects cannot bring economic gain, thereby impeding serious OS commitment (see Oliver, 1991). In addition to the analysis of this section, some relevant examples associated with this barrier are also presented in section 4.3.2.3.2. 'Compromises when confronting tensions/conflicts between pragmatic organizational interests and moral legitimacy for sustainability'.

4.4.1.1.2 OS is not viewed as a strategic priority within universities

Newman and Breeden (1992, p. 211) assert: "It [environmental sustainability issue] is arguably the hardest to address, because environmental risks are less personal, less immediate and, therefore, have less apparent urgency." In this research, both interview and document data pointed out that OS was not the strategic priority of many universities. While many organizations claimed to be 'sustainable' universities, in practice the sustainability of their operations was not seen as core. For instance, one participant stated: "*I'm a little skeptical that the university really, or any university really wants to put environmental considerations right at the forefront*" (Interviewee 6)

Many respondents reinforced this point:

> "*I think if we would be seeing in 2018 [and before that] the priorities of developing campuses to improve the student experience, to attract more international students, to acquire a larger place [share] in the market was probably bigger than sustainability for many universities. [...] I think the*

barriers where probably priorities in terms of education business; sustainability wasn't the top priorities." (Interviewee 15)

"*At the moment, it [sustainability]'s not strategic as it could be, ... It is important, but I think that the senior management within the universities, their priorities are focusing on maybe five or six core areas. Although they connect with sustainability, they're not sustainability. They are: student numbers, student experience, teaching excellence, research excellence, and probably research funding as well*". (Interviewee 4)

The findings are similar to the previous literature (e.g. Leal Filho et al., 2019; Blanco-Portela et al., 2018; Elliot and Wright, 2013; Krizek et al., 2012; Velazquez et al., 2005). This factor may create or exacerbate other barriers (Shriberg, 2002). The low priority of OS in organizations could result in insufficient financial and human resources allocated to these activities. The lack of priority may significantly undermine their organizational willingness and ability to take serious sustainability-related actions and implement substantive changes.

4.4.1.1.3 Lack of university senior management commitment to OS

In association with low OS priority, this research indicated that a lack of top management support to OS could be an impediment to sustainability efforts. It was suggested that senior managers are very busy and have to deal with many other urgent problems. The allocation of organizational resources is determined by senior university leaders. In the absence of continuous support from the top, a bottom-up programme would probably not work in the long term. Many respondents pointed out the barrier of insufficient support from top management:

"*But the changes going forward that would be more deeply rooted in the business model itself, we have less support for. I think on the basis of that is a lack of* *sustainability understanding and commitment on behalf of the most senior management. [...] I think the senior management generally at universities is still of a past generation and they're in denial of the importance of sustainability going forward.*" (Interviewee 8)

"*Those internal things are quite random and quite varied across the whole of the university. Sometimes they are very much senior leadership, sometimes they're not. Often they're not, because they've got other pressing issues to deal with as well.*" (Interviewee 4)

Importantly, some participants also noted that the lack of commitment from university senior executives may adversely affect OS resource allocation, for instance:

"The other barrier is the strategic one, which is if there's enough appetite at the senior management level for this kind of agenda. Because if you don't have that, then you won't get anywhere. Frankly, because the university won't see it as being important enough and won't devote…. So in terms of having the money and the resources to be able to do things. It's directly in relation to whether you've got a foot in the senior management camp or not. Those three are, I think, probably the key barriers". (Interviewee 7)

The comment above demonstrates that top executives of a university are in charge of financial, human and administrative resources. In order to ensure the long-term success of an OS initiative, it is necessary to secure continued support from senior management (see Avila et al., 2017). The results from this research are consistent with prior studies which stress an important barrier is the lack of senior management sustainability leadership (e.g. Ávila et al., 2019; Aleixo et al., 2018; Blanco-Portela et al., 2018; Adams, 2013; Velazquez et al., 2005). In relation to this factor, further analysis and empirical evidence regarding the lack of awareness, interest and understanding of OS issues among top executives of English public universities will be provided in section 4.4.1.3.1 ‘Lack of awareness, interest and knowledge about OS among different organizational members’.

4.4.1.2 Organizational resource/capacity-related barriers

In accordance with interview and document data, insufficient financial resources, lack of dedicated OS human resources, and other organizational members’ lack of time to participate were perceived to be the main organizational resource/capacity-related barriers.

4.4.1.2.1 Insufficient financial resources for OS within universities

This research indicates that financial resources for OS initiatives are the main concern for most sample universities. A number of OS programmes were not sufficiently or continuously funded. For instance, several key external stakeholders worked closely to conduct sector-wide surveys annually with universities’ sustainability practitioners and other staff and students involved in OS-related activities of their institutions. Many participants in these surveys pointed out:

> “*Whilst we are moving forward with several fantastic sustainable projects, the lack of finances is holding our institution back. In most cases we are applying for funding and often we receive some financial assistance, however it usually comes with fund matching requirements and the sustainability budget (that we are grateful to have) will not support all of our opportunities to grow our sustainability achievements.*” (EAUC, NUS, University and College Union, Association of Colleges and the College Development Network, 2019, p. 28)

> “*The only real barrier is MONEY and a lack of allocation to sustainability roles and projects within the institution. The institutions’ commitment 'on paper' is not matched with the amount of money it provides for the agenda internally. Same old*

sector story". (EAUC, NUS, University and College Union, Association of Colleges and the College Development Network, 2015, p. 44, emphasis in original)

Similarly, financial barriers were also mentioned by interviewees in this research: *"Other things in barriers are possibly financial. If you're aware that there have been conversations in the review, looking at university funding. That could potentially have quite a big impact on university funding. It's then going to limit the sustainability projects..."* (Interviewee 10).

Furthermore, the global COVID-19 pandemic and related economic downturn adversely impacted English universities' overall financial situation and student recruitment; they, in turn, restricted and reduced OS funding opportunities. As an interviewee pointed out: "*The other barrier is cost and the cost barrier will be certainly very prevalent after COVID-19*" (Interviewee 15). For a detailed analysis of the negative impacts of COVID-19 on OS, please refer to section 4.4.2.3.

The empirical evidence shows that, to varying degrees, English public universities lack funding for various OS investments and engagement programmes. The slowing economy and government policy changes (state funding reduction) have impacted universities and they have to cut budgets by decreasing expenses amongst departments and initiatives. Money has been reallocated to other priorities instead of OS. This problem is compounded by the adverse economic situation as a result of COVID-19 and Brexit. These results are similar to the prior literature which notes that insufficient financial resources are constant constraints on many OS projects (e.g. Avila et al., 2019; Aleixo et al., 2018; Avila et al., 2017; Blanco-Portela et al., 2018; Elliot and Wright, 2013).

4.4.1.2.2 Lack of dedicated OS human resources

Almost all interviewees viewed that there were insufficient human resources for undertaking OS activities, especially dedicated staff resources directly responsible for OS in universities. If the proportion of dedicated OS staff compared with the total number of staff and students of the whole university was too low, the small team might not be able to thoroughly address the complex OS issues associated with numerous organizational units, the large size of the whole organization, and sometimes dispersed locations. As a participant stressed during the interview:

> *"The next one is, obviously, if you don't have the personnel. I'm quite fortunate in that respect, I have a team. I'm well aware that some institutions don't. It might be one person, or it might not even be a full-timer that somebody's in post. Immediately you're going to struggle to be able to deliver things if you've not got the people on the ground to be able to actually either directly implement policies or influence others to do so"*. (Interviewee 7)

> Some other interviewees also shared similar views, for example: "*I think lack of time, probably within the sustainability team, might be a bit of an issue because obviously there are so many things that you want to do and you can't do everything because of the resource. Potentially that's a bit of a barrier.*" (Interviewee 13)

> "*... staff resource availability can be a problem. ... I don't think it changes the aim of universities to adopt more sustainability, but it can make the implementation a bit slower.*" (Interviewee 15)

These comments suggest that the lack of dedicated sustainability staff could severely affect the implementation of OS programmes and engagement with the wider university community. Sustainability practitioners may have to prioritize the OS tasks and focus on the 'essential' ones. As a result, they may not have time to quickly respond to the diverse demands of a variety of stakeholders.

4.4.1.2.3 Other organizational members' lack of time to participate

In addition to the lack of dedicated staff, managers responsible for OS found it difficult to deeply engage other staff (i.e. academics and other professional service staff), because they were very busy with their main jobs and responsibilities. One of the respondents commented: *"... you've got a very lean workforce throughout the university. You've got fewer staff [members] doing a lot more work and adding sustainability to that work, from a corporate point of view, it is seen as asking too much or too much of a step"*. (Interviewee 4)

Therefore, when managers asked other staff to get involved in OS activities, they often faced resistance. The interviewees reinforced this point:

> "*…they [senior management] are apparently so busy that there's very little … bandwidth that they have either individually or in terms of the requirements they would ask the university staff to implement. Because the workloads of our staff are incredibly high, to ask them to also work on sustainability, I think it would get a lot of resistance.… there's a significant pushback because I think there's a limit of what people can do*". (Interviewee 4)

> "*That [lack of time and participation of staff with no OS remit] is definitely happening more. It's not the fact that they don't want to do it; it's just the fact that they just can't do it. If we ask for a senior manager to help, come to a meeting quarterly for an hour, even that is sometimes a struggle. It does get difficult because we haven't got the number of people here to do the amount of work that we would like to do.*" (Interviewee 9)

These results are consistent with previous sustainability studies. One important organizational capacity-related barrier is insufficient human resources, especially the lack of trained and skilled staff to directly deal with sustainability issues (e.g. Ceulemans et al., 2014; Jabbour, 2010; Velazquez et al., 2005). Other staff and students' lack of time to participate due to other primary responsibilities within a university is also a hurdle (e.g. Ceulemans et al., 2014; Sourani and Sohail, 2011; Fenner et al., 2005; Velazquez et al., 2005).

4.4.1.3 Cognition/organizational culture-related barrier

Drawing upon the narratives of many interviewees, cognition/organizational culture-related barriers comprise lack of awareness, interest and knowledge about OS among organizational members, and silo mentality.

4.4.1.3.1 Lack of awareness, interest and knowledge about OS among different organizational members

The evidence from this study revealed the lack of awareness, interest and knowledge about OS among senior management, professional support staff from different functions, academics and students. These seem to be the most common cognition-related barriers to OS further engagement. Specifically, there is evidence indicating that the lack of interest and knowledge among senior management at public universities in England hinders the development of OS. Many strategic decisions, major investments and resource allocations concerning OS must be made by senior executives within universities. However, the analysis showed that the majority of senior administrators were perceived not to have sufficient knowledge of or first-hand experience in managing OS activities or assessing OS investments. Meanwhile, top managers are very busy with other organizational priorities which may or may not compete with OS. These may create problems with OS strategy formulation, implementation and evaluation. For instance, a number of participants mentioned:

"*... what I met with was a lack of general interest amongst the senior people. ... First, you might say the senior managers, that means anyone from VC [Vice Chancellor] level down with particular reference to the deans and managers and heads of departments, are fairly influential stakeholders. What I should say about that is most of these people are probably not overly interested in environmental matters. ... The chances are most of them might be vaguely aware that there are environmental issues but wouldn't have any day to day contact"*. (Interviewee 6)

"*This is a broad sweeping statement, but I think most senior managers of most universities are of an age where they're still not really grasping the fact that they have to, the business models have to change for the future, though they were brought up in a time when sustainability was an expensive add-on...*" (Interviewee 8).

Interviewees also highlighted that top executives did not possess sufficient knowledge concerning OS topics, for instance:

"But when you go into a senior management team situation, if you take someone like the VC, they've come from a different background and aren't particularly knowledgeable about environmental matters in many cases, even though they might be quite receptive. They're probably not as exposed to the knowledge that's available from organizations like AUDE or EAUC because they wouldn't attend the meetings". (Interviewee 6)

The lack of awareness, interest and knowledge among academics, support staff and students were also considered as barriers to OS. Some interviewees reported that staff in relevant departments (e.g. facilities management) needed to develop specific knowledge and to gain an in-depth understanding of different aspects of OS. Otherwise, they would be unable to offer sufficient information and support to dedicated sustainability staff and implement cross-functional OS projects effectively. For example:

> "*Well, possibly lack of knowledge, lack of understanding amongst staff and students. For instance, I asked for the statistics on waste and asked the facilities team how they were thinking of driving it down. The reality of it turned out that they weren't really very knowledgeable about the figures or where they came from and our waste figures were very imprecise*". (Interviewee 6)

OS should be the responsibility of every member of the university. However, the analysis showed that many staff from different departments (e.g. human resources or IT) still viewed that OS was not highly relevant to their jobs or the environmental impact of their functions was insignificant. For example, document data noted:

> *"HR teams tend to consider sustainability issues to refer to predominantly waste and energy management, and struggle to see the relevance of the topic for their departments".*(EAUC, 2019f, p. 1)

> *"Often there is a lack of IT staff participation in embedding sustainability due to IT impacts being (erroneously) seen as insignificant, though at some institutions advice from IT teams was key to changes in sustainability practices".* (EAUC, 2019g, p. 2)

According to this study, while some academics actively engage in sustainability-related teaching and research, they are less interested in or less aware of the sustainability practices of universities' actual campus operations. In a similar vein, some students are less interested or less knowledgeable in respect of OS than others. These issues were illustrated by interview and document data:

"*Absolutely. It's a really rare thing to find an academic who's actually interested in what the university is doing [about OS]. ... I've been in plenty of meetings with academics when they have got no idea that there is a sustainability effort in the university, even though we've been well-established for quite some time. There's 13 of us and we won awards etc. That kind of thing's happening in [name of university] all the time. [chuckles]*" (Interviewee 14)

"*... students do not seem to want to get involved in sustainable issues and see it as something only relevant to the 'Green Societies'"... "Awareness of staff and students on sustainability and sustainable development is still limited and the concept is not well understood by many.*"" (EAUC, NUS, University and College Union, Association of Colleges and the College Development Network, 2017, p. 52)

These findings are supported by prior literature (e.g. Brandli et al., 2015; Waas et al., 2012; Elliot and Wright, 2013; Ceulemans et al., 2014). A large proportion of organizational members in many higher education institutions still lack interest in or understanding of OS. Insufficient interest and awareness may give rise to limited engagement in OS activities (Ávila et al., 2019; Velazquez et al., 2005; Dahle and Neumayer, 2001).

4.4.1.3.2 Silo mentality

Another cognition/organizational culture-related barrier is concerned with silo mentality. In this context, the inward-looking silo mentality can be viewed as a mindset when individuals within an organization do not"act as 'one business'" (de Waal et al., 2019, p. 2). People tend to solve individual OS-related problems in isolation and address parts of the issues that only have an effect on them (Waheed, 2017a). In contrast, one of the key characteristics of OS is that it is interdisciplinary and cross-functional, which promotes systemic, whole institution changes (Aleixo et al., 2018; Shriberg, 2002). As an interviewee noted:

> "*You find that big organizations tend to end up having a bit of silo and sometimes a bit fragmented. I think it's part of the challenge for sustainability in general. Sustainability is completely crosscutting and you need action happening at a local level and every day, to take some ownership of it. [...] people see different divisions as just different entities*". (Interviewee 11)

This study shows that silo mentality and siloed working exist in different divisions/functions, organizational levels and disciplines, deterring the trans-boundary collaboration and cooperation of OS. Many interviewees pointed out this problem:

> *"There's definitely a silo mentality within universities where people work up and down structures rather than across. That can certainly hold things back in relation to sustainability".* (Interviewee 5)

> *"... people should realize that you can't work in silo. The challenges you face at universities can't be addressed by one team. The finance challenges we face, we are certain the finance team can't address them alone. The challenges we face with the estate, just the estate team can't address them alone. We need all stakeholders involved, because they are technical and nontechnical initiatives. [...] Silo-working is a challenge..."* (Interviewee 12)

Silo mentality also seemed to exist among academics. This was raised by some interviewees, for instance: "*... it [silo mentality] can be something to be overcome. It can be a problem. ... [for example, academic staff may think] if it's not something that I'm responsible for research on chemistry, if it does not affect my research, I'm not interested.*" (Interviewee 15)

According to one participant, as part of the reasons for silo mentality, employees experienced greater pressure and had more limited time to deliver results, due to the universities' efficiency maximization in terms of the use of human resources (hiring fewer people to do more work):

> "*Silo mentality, even across all organizations, is there. And the reason why it's there is that people are under pressure for the last 10 years. Most organizations have lost so many staff. A job that was previously done by 10 people, most organizations you have probably 5 or fewer people delivering the outcome of 10 people, which means that they won't have time to listen to you"*. (Interviewee 12)

The barrier associated with silo mentality revealed in this study supports prior research (e.g. de Waal et al., 2019; Adams, 2013; Diamond and Allcorn, 2009; Hansen, 2009). Drawing on insights from Newman's ideas of a university and interdisciplinary understanding of knowledge, MacIntyre (2009, p. 5) argues that, within a university, the current institutional arrangements and "the academic division of labor" have some adverse effects. Researchers and educators tend to only focus on their own disciplines, but fail to integrate different dimensions of knowledge and see complex problems/issues holistically. MacIntyre (2009, p. 5) argues that, in certain situations, "intensive specialization and narrowness of intellectual focus deform the mind". Such narrowness not only affects academics' teaching and research but also hampers their involvement in the multidisciplinary OS, which is perceived to be outside their interests and remits.

Moreover, Waheed (2017a) contends that a large number of managers, staff members and students fail to grasp the complex systemic inter-connections among OS-related problems. This has resulted in a lack of empathy for others' troubles and, as a result, has contributed to polarization inside and around institutions. Such silo mentality has hindered coordinated efforts and long-term thinking concerning OS. The template regarding the organizational-related barriers to OS progress, derived from the data, is shown in the table below.

Table 4.5 Template regarding the organizational-related barriers to English public universities' OS progress

1. Organizational management/structure-related barriers	● inconsistency between long-term wider OS and organizational short-term economic interests ● OS is not universities' top strategic priority ● insufficient support and commitment from top management
2. Organizational resource/capacity-related barriers	● insufficient financial resources ● lack of dedicated human resources ● Other organizational members' lack of time to participate
3. Cognition/organizational culture-related barriers	● lack of awareness, interest and knowledge about OS among different organizational members ● silo mentality

4.4.2 Social institutional-related barriers

Based on the empirical evidence of this research, the social institutional barriers are analyzed from the following three aspects: insufficient or inadequate legal and governmental coercion, varied and limited social pressures from (non-governmental) external stakeholders, and the main negative impacts of the COVID-19 crisis.

4.4.2.1 Insufficient or inadequate legal and governmental coercion

4.4.2.1.1 Weakening coercive pressure and short-termism of central and local government

Both interview and document data showed the decline of government coercive pressure on English public universities' OS in recent years. The UK government used to be fairly active in promoting OS at universities, especially in the areas of carbon emission reduction and energy saving. However, by the time of this research, the overall government influence and support (e.g. central leadership, policies, enforcement and funding) were perceived to have waned in strength and scope. Critical comments made by the respondents reflect the insufficient coercive pressure from the government, especially the central government:

> "*That's energy and carbon, there is very little legislation. The requirements under the Energy Performance of Buildings Regulations back in 2010, the aspiration was that by now 2019, all commercial buildings would be zero carbon through the building regulations. The present government and the previous coalition watered that down so we have made almost no progress whatsoever towards zero carbon buildings. So from that point of view, the leadership has been woefully poor. And the same has been the case for waste and recycling. Up until now, there has been no directional policy from the central government to help organizations. That's the basis of why I say it's been poor*". (Interviewee 8)

Participants also argued that, in addition to the enactment of laws, the enforcement was not strict enough. For example: "*I think in all cases of environmental legislation for universities, other than universities creating a direct pollution event or something like that,...there is no fear of enforcement, if you like, of any legal obligations of the universities*". (Interviewee 8)

Similarly, when analyzing environmental management system implementation, one university identified the lack of enforcement could be a barrier. "*Lack of enforcement from regulatory bodies can make it difficult to demonstrate the need to comply*" (University of Worcester, 2018b, p. 5)

Both mainstream media and activist groups also reported that the lack of government support had hindered sustainability progress in universities' operations. A number of relevant government initiatives, sustainability funding opportunities and financial incentives have been removed, and many English universities missed carbon and energy reduction targets (People & Planet, 2019b). For instance:

> "*Before 2010 and the election of the coalition and the Conservative governments, there was a flurry of carbon reduction initiatives linked to higher education funding, says People & Planet, a student campaigning network. "Sustainability drivers such as the capital investment framework (which made tranches of funding contingent on plans to reduce carbon emissions), the higher education green academy and the student green fund have all been removed. Today, it says, "the landscape looks bereft of any significant support or incentive for sustainable development in universities in England."* (Lightfoot, The Guardian, 2016)

In addition to funding reduction, some government guidance concerning sustainability has been removed partly because of the recent changes in government policies (i.e. reducing government restrictions on universities), weakening the influence of the government. As a respondent noted: "*Guidance is available but during the let's say 2010 to 2015 period there was a big push to reduce red tapes for businesses from central government. Now, … there were literally many hundreds of guidance documents that were removed. Actually, businesses have less guidance in such matters than they used to have*". (Interviewee 9)

From the interviewed managers' narratives, it is noted that the perceived government coercive influence was also limited in scope. Although some general acts or guidelines were formulated, there was not enough government pressure, particularly in the forms of sanctions, penalties and punishments, on many sustainability areas (e.g. sustainable procurement, carbon and energy reduction, buildings, transport, biodiversity, and waste and recycling, etc.). Moreover, respondents pointed out that there is a lack of mandatory government requirements in a number of aspects of OS. Without mandatory requirements, managers found it challenging to make real changes in these aspects. For example, participants commented:

> "*I would say the requirements for buildings and making them net-zero carbon, I think there needs to be more pressure applied to reduce the operational energy consumption of those buildings as far as possible, put pressure on the universities to do that. I also think there should be pressure on them in terms of contributing towards sustainable transport initiatives because they are the big areas for our carbon footprint. ... The other area I would say is back to procurement... that's more a role around government in terms of forcing universities to look beyond just the strict fair use of money criteria and look for things like social value within the procurement framework.*" (Interviewee 7)

> *"I think energy consumption and carbon reduction should have mandatory requirements. I think waste and recycling should have mandatory requirements. I think biodiversity should have mandatory requirements but I understand that these are really complicated and difficult to put in place…. Sustainable procurement is something that I've had real difficulty with here. It's very difficult to demonstrate what the benefits to the university are for putting in place a lot of controls on the way that people buy things. I would very much like to see some legislative requirement or some central government requirements for universities to undertake or to demonstrate sustainable procurement practices. There's quite a bit of guidance there in terms of the flexible framework and other*

stuff, but there's no requirement for universities to do it and I would like to see that." (Interviewee 8)

Similarly, in the EAUC's consultation responses to the government, some of its members (university leaders and sustainability managers) advocated that universities' OS issues needed to be forced, targets should be mandatory, and sufficient government sanction was necessary. The document showed:

"*The issue needs to be forced... Mandatory minimum target, with higher targets incentivised for institutions who are able to be aspirational (although relative rather than absolute targets will always be more achievable for institutions which are rapidly growing). For Universities with rapid growth would carbon offsetting be a sanctioned route to meeting targets? Penalties for failure would be helpful in the next round of targets because that is how you motivate real institutional-wide change... Members felt that mandatory targets would motivate institutions more than voluntary targets. Sustainability orientated staff often struggle to get senior buy into sustainability measures - mandatory measures will force the issues further up the decision chain*". (EAUC, 2017, p. 5)

Moreover, interview and document data revealed that, in many cases, short-termism associated with government regulations and policies impeded the long-term, continuous development of OS. For example, the government-funded Salix Finance had five-year payback limits for funding energy efficiency projects. Consequently, the short-term focus of public funding criteria constrained and even prevented long-term sustainability investments. For example:

"These loans will be paid back to Salix by direct debit on a 6 monthly basis over a period of 5 years… Projects will then have to be completed within a 9 month timeframe from the commitment date. Where Projects must comply with the

*following criteria: The project must pay for itself from energy savings within a maximum 5 year period …" (*Salix Finance Ltd. 2018, p. 1)

In an EAUC's document, member universities reported that "*length of payback" was "the biggest barrier for your institution to improve energy efficiency and cut carbon emission"* (EAUC, 2017, p. 2). Projects that could provide relatively short-term payback were likely to be supported by government bodies. In contrast, OS projects which could not meet Salix payback requirements were not funded.

Both media and activist groups stressed the problem of the government's short-termism from the policy perspective:

> *"We can now see the concerning impact of the current government's short-termism with regard to energy and climate policy," says Hannah Smith, co-director for campaigns and research [people and planet]. "Environmental sustainability has been removed from the government's annual grant letter setting out higher education funding, leaving the Higher Education Funding Council [HEFCE] without the resources it had in the past to support sustainable practice*." (Lightfoot, The Guardian, 2016)

4.4.2.1.2 Decline of coercive influence from the sector regulator

As discussed earlier, the university sector regulator is one of the most relevant and influential stakeholders in this context. In recent years, there have been substantial changes in English higher education regulators, their strategies and policies. HEFCE was taken over by the Office for Students (OfS), and this was coupled with the significant public funding cuts. OfS claimed that it was a 'low burden' regulator. The perceived coercive pressures of university regulators on OS have waned even further. As a participant noted:

> "*About the sort of power that some of these external organizations have, unfortunately, HEFCE is no longer around, but is replaced by the OfS, and universities funding tends to come from individuals now rather than large organizations like the OfS,… That was quite a change in their ability to influence what university did, especially motion to carbon management was vastly reduced, ...*" (Interviewee 5)

Interviewees stressed the new regulator's perceived lack of interest in OS:

> "*That is a recent change obviously, which has just come on top of a lack of direction. The focus is the OfS now has got nothing to do with the environmental performance at the universities and they seem to be entirely uninterested in that, so there is no driver essentially for universities now. The progress universities are making now is all on their own backs and this is without central leadership*." (Interviewee 8)

Furthermore, many participants criticized that the OfS' changes in relevant policies even had a negative influence, at the time of conducting these interviews:

> "*There doesn't seem to be anything at all in their [OfS] remit around sustainability whereas HEFCE published, we had a sustainability strategy and framework. Also, HEFCE linked capital expenditure, the university's capital grant to having a carbon management plan, for example, back in 2010, which was obviously big influences on the sector. Those have gone largely. And in fact, the OfS has said that the estate management record which we do each year .... a large consequence which is around carbon reporting, for example. They're not interested in receiving that at all. That's quite a step backwards in my opinion. It shows that, as far as they're concerned, they don't see it as being of interest to the students. I think they're missing it. ... In a sense, they are having quite a big influence on those but in a fairly negative way*." (Interviewee 7)

The estates' management records of universities are not required by OfS and the Higher Education Statistics Agency (HESA). Higher education institutions are no longer required to give information on carbon reduction and other environmental concerns to HESA. Participants explained that this change might adversely affect OS improvement:

> *"I guess I've already given one, which is the OfS. That's been quite negative in terms of not asking for carbon data. Then we won't be able to compare, and it won't keep the pressure on the organizations to improve on the carbon front, or other utilities for that matter. So that's one [barrier]*". (Interviewee 7)

> "*HESA [and OfS] just decided that there's no need for environmental management reporting to be carried out. I think that's incredibly shortsighted. Whilst a lot of universities will continue to do that reporting, I think it's a really odd message to send out that it's no longer compulsory but it's just optional. I think that's a really odd external change that just happened. [...] I think that makes it harder internally to push why we need to do the reporting*". (Interviewee 16)

Sustainability literature supports that insufficient laws and government policies impede OS progress in higher education institutions. And strict monitoring and enforcement cannot be ignored (Avila et al., 2019; Brandli et al., 2015; Leal Filho et al., 2015; Waas et al., 2012). So far, many OS areas rely on voluntary activities to fulfill their objectives, but voluntarism, at the current stage of OS development, is neither sufficient nor effective in bringing about sustainability transformation. Therefore, government OS-related requirements and demands should be mandatory rather than voluntary (Velazquez et al., 2005).

From the perspective of neo-institutional theory, Oliver (1991) suggests that the lack of strong and effective legal or governmental coercion is likely to give rise to organizational resistance to social institutional demands. Hence, in the context of sustainability, the weak or inadequate coercive pressures exerted by laws and government regulations may be a barrier to pushing OS forward. Wijethilake et al. (2017) also point out that insufficient enactment and ineffective enforcement of sustainability regulations weaken coercive institutional pressures and demotivate organizations from making further commitments to OS. Under this circumstance, organizations may only meet minimum legal requirements with respect to OS (Alotaibi et al., 2019).

4.4.2.2 Varied and limited social pressures from non-government external stakeholders

Apart from government coercion, the study revealed that, although students, activist groups and sector professional bodies play active roles in influencing OS, their pressures on universities to make positive sustainability changes are still lacking.

4.4.2.2.1 Insufficient pressure from students

Interviewees stated that the influences of students and local students' unions at different universities were mixed and varying. While some unions' influences were strongly felt by their respective universities, others' pressures were less significant, and others were not as vocal as expected. For instance:

> *"... In some instances, I know that the influence [from students and students' unions] has been very strong in some of my peer organizations. In our organization, it's not strong enough. I think it's mixed"*. (Interviewee 8)

> "*We don't have a particularly vocal student body in terms of sustainability. ... If it was a more vocal and outspoken student body in relation to demands on climate change and sustainability, it would be much easier for us to get projects funded, and to get projects off the ground. A lot of the time, it's you're begging and borrowing for bits of money and people's time to do things, but if there was more demand from students, I think it'd be much easier for us to get those things done*". (Interviewee 5)

In some interviewees' perceptions, with regard to prospective and current students at large, although the majority of students are aware of the importance of sustainability, many of them are not actively involved in universities' OS or do not give priority to sustainability in their choice of university. There is still room to engage many more students in such activities. For example, one participant mentioned the lack of UK students' involvement and pressure:

> "*We tend to find that for some of our volunteering projects, it tends to be international students, who are more willing to volunteer on sustainability projects, rather than national students, which is a bit strange and yes, maybe that's the reflection on attitudes in the UK to sustainability…. We run a couple of focus groups fairly recently. Again, the majority of those have been international students, and they tend to be extremely engaged in the whole sustainability agenda, information and knowledge around the Sustainable Development Goals, but then you don't seem to find that quite so much with national students.*" (Interviewee 5)

It seems that, when students choose for a university at which to study, sustainability is one of the considerations, but not a priority or a deciding factor. This was raised during the interviews:

"*Up until now, I don't believe that there's any firm and real evidence that students choose their university based on sustainability credential. ... They go somewhere because of the course, because of its reputation, because of the city, because of the campus, because of their parent. ... What I do think is that if all things were equal, and there were two universities that I couldn't choose from, and one was crap at sustainability and the other was really good at it, then you might get that used as a deciding factor but we're nowhere even near that at all.*" (Interviewee 19)

"*I think there is the survey that's done and that's all run by the National Union of Students a few years ago, where they said something like, "95% of all students say they consider choosing a university that was committed to the environment." But when I asked to see the survey from which that originated, essentially it was from one simple question which says, "Would you think about the environment when you look for a university?" Of course, most students would say they would tick the box because there's no cost to them…. The reality of it is, I think, that when a student comes to have a look around, possibly the average student, if there is such a thing, will look at the facilities, the buildings, the environment, the nightlife, the city and so on and so forth, and they will all come a long way above environmental considerations. I may be wrong in that but I'm a bit skeptical really*". (Interviewee 6)

4.4.2.2.2 Mixed views on the influence of the People & Planet university league

Based on some interviewees' perceptions, the influence of the People & Planet sustainability university league table has waned in recent years. In addition, different organizational members have mixed opinions about the significance of the sustainability league table. For example:

> "*It [sustainability university league table] does, but less so than it has been the past, I think that its impact has waned somewhat…. That [sustainability university league] used to be useful, although that's weakening.*"
> (Interviewee 4)

> "*League Tables helps with the PR side of things. It doesn't have much weight anymore, but initially, when they came out it was a driver to make sure that you could argue with universities to get things changed. A lot of the universities are already now doing most of the stuff they're requesting or the league isn't taken as seriously but there is still that driver if you don't want bad press*." (Interviewee 9)

It was reported that, while many sustainability-related practitioners recognized the importance of the People & Planet league table, not all senior managers (especially those whose remits were not directly related to public relations management) agreed with these views, for example: *"Perhaps not as strong as it did, but it is still fairly strong. [...] I think it probably depends who you talk to within particular organizations. I think it's got quite a strong influence, but I know that my director isn't that keen on it. He says, "submit information to it, but don't put a huge amount of time towards it.*" (Interviewee 5)

Moreover, apart from the sustainability university league table, there was no mention of the influence of People & Planet's other activities/campaigns. Other activist groups in this sector were less mentioned by participants during the interviews as being influential. These observations reflect that, with few resources, activist groups may only play a limited role in pushing English universities' OS forward.

From the perspective of universities, the 'reputation management motivation' for engaging in OS appears to be strong. Jones (2017) notes that 'high performers' in the People & Planet ranking publicly make a big deal out of it while 'low performers' remain quiet about it. Some universities may utilize the sustainability league table as a tool to manage their organizational image, because being perceived as sustainable could be used as a differentiation strategy to recruit more students (Dobson et al., 2010).

Although People & Planet is well-intentioned, the ranking methodology of the University League is not without critics. For example, the ranking has dealt with the essential issue of staff and student dialogue and engagement "as an add on" to other criteria (Jones, 2017, p. 491) - it only accounts for 5% of the whole scores, having limited influence on the overall ranking performance of individual organizations. Moreover, little attention has been paid to the contributions of sustainability research (People & Planet, 2019c).

One would argue that the current data collection methods are also limited and even problematic: rather than directly and deeply engage with students, staff and other stakeholders, the ranking assessments mainly rely on the university website information and Estates Management Statistics' data - conveniently based on secondary information. Consequently, the in-depth first-hand primary data is lacking in this league table.

4.4.2.2.3 Limited influence of professional associations

The evidence from this research indicates that EAUC, as a sector professional organization, seems to have an influence on sustainability practitioners at universities. However, the analysis shows that its impact on university top management and the whole organization is perceived to be limited. A number of participants reported this factor:

> "*I think it's not really worked strongly with more senior members of the university and the boards, ... From what I can see they [senior management] don't feel pressured or influenced by them [EAUC]*". (Interviewee 17)

> "*They (EAUC) give information, they give tools, they don't have that power to influence the Vice-Chancellors*". (Interviewee 12)

Adding to this point, a participant noted that, with only a few exceptions, many university top leaders do not take part in EAUC's activities:

> "*I don't have a feel for how effective they [EAUC] are for influencing university senior management that are not already engaged in the sustainability question… There are some examples of senior managers within the HE sector who are highly committed and get the environmental agenda. But it is almost unheard of that other senior managers would, for instance, go to the EAUC conference and let themselves understand more deeply what the business is all about*". (Interviewee 8)

While EAUC promotes OS with good intentions, from a critical point of view, as indicated by the examples in the previous sections, when motivating universities and their various departments to engage in OS, in some cases, the rationales and narratives EAUC espouse and emphasize are still in line with the win-win 'business case' logic which is prevalent among these organizations and divisions. For example, one of the important EAUC programmes is 'making the business case for sustainability' (EAUC, 2019c). There is limited evidence that EAUC has directly confronted and publicly criticized the current OS practice of English public universities. Further, there is little indication that such professional organizations have challenged the unsustainable way the universities operate and demanded a fundamental shift of the organizational strategic direction. Moreover, while there are several professional bodies in the field of sustainability apart from EAUC (and two interviewees touched upon AUDE for developing sustainability tools), there is less mention of the influence of other professional associations. It appears that their influences were not strongly felt by the participants.

Sustainability literature supports that a lack of social pressures from various non-government stakeholders hinders OS progress (e.g. Brandli et al., 2015; Waas et al., 2012; Ferrer-Balas et al., 2008). In the context of universities' OS, the influences of students, activist groups and sector professional associations are not widespread (Adams, 2013). Organizations may not have strong motivations to undertake the structural and cultural changes promoting OS, without sufficient social demands from diverse constituents (Stubbs et al., 2013; Cortees, 2003).

Scholars, adopting institutional theories, also argue that organizations may not be fully committed to OS progress, when the relevant social institutional pressures placed by activist groups, consumers, professional associations and the general public are weak or absent. Unfavorable institutional conditions and arrangements may constrain and even undermine the development of sustainability-related activities (Amaeshi et al., 2016; Campbell, 2007; Deakin and Whittaker, 2007). Hence, the lack of non-regulative institutional mechanisms is likely to be a barrier to OS advancement (Aguinis and Glavas, 2012; Chang and Deegan, 2010).

4.4.2.3 The negative impacts of COVID-19 on universities' OS

While the COVID-19 crisis has had a wide range of effects on English universities in general and organizational OS in particular, this section emphasizes its most prevalent negative effects as perceived by the interviewees. Among various impacts, there are two main themes that emerged from participants' narratives in terms of COVID-19's adverse influences: further reduction in OS-related funding as a result of increasing financial pressures on universities and new environmental problems. The study indicates that the lack of financial resources for OS is compounded by the COVID-19 pandemic and related economic downturn. For instance, an interviewee explained:

> "*It's possible that, due to COVID-19, some students will not be able to travel to the UK. It's possible that the UK universities will lose some international students; and it's possible that because of loss of jobs, unemployment, and economic difficulties, some students will not go to university. It's quite possible that universities will have fewer financial possibilities in the next two, three years or more. [...] I think for [name of university], COVID-19 will not stop sustainability, but it will slow sustainability. For example, it is possible that we will not refurbish the same number of buildings very quickly. It will take more time to do things...*". (Interviewee 15)

Other participants shared similar views:

> "*Universities will face a funding shortfall and we'll have to prioritize ... their core business which is learning, teaching, and research". [...] I suppose that's all we got really, because there will be less money around sustainability. Certainly, for the next couple of years, universities will balance all decisions about its survival really, [...] I would say the university sector was very buoyant, growing, and profitable but, I think, because of the COVID-19 crisis, there's going to be an extreme amount of pressure on those universities, which can't change quickly, they can't go to online learning [quickly]... They ran new business plan without generating a surplus, and now they're into extreme debt*" (Interviewee 18)

> "*Particularly given the financial crisis, it is essentially going to be, coming after COVID-19, the tightening of belts; it's necessary. [...] I think most universities will have to put a pause on their capital plan"*. (Interviewee 16)

The COVID-19 pandemic disrupted almost all university activities and negatively affected student recruitment. Higher education's funding is under high pressure because of the adverse economic situation as a result of the COVID-19 crisis (see

Bolton and Hubble, 2020; Institute for Fiscal Studies, 2020). These external factors have had serious direct influences on the OS progress in the sample universities.

In addition, the widespread COVID-19 pandemic has posed new environmental challenges for universities. The emerging waste and recycling problems are especially serious, as there is a drastic increase in single-use items and a slowdown in promoting some of the reusable items. Interviewees illustrated:

> "*Then as we return to campus, you actually get a whole host of new environmental impact challenges. To give you one is PPE, personal protective equipment, and the fact that a lot of PPE is going to be used, which is single-use and disposable. A lot of wipes are going to be used, so it will bring waste challenges*." (Interviewee 11)

Some interviewees expressed their concerns about the new problems arising from the considerable increase in single-use plastics waste and severe difficulties in continuing to encourage the use of some reusable items:

> "*In the short term it kind of impacts on recycling figures. A lot of waste is now just being disposed of in general waste rather than recycling. It might have an impact on that. I think as well it's going to make the single-use plastic initiatives more difficult because people are now ready to move back to single-use items especially in catering. It presents a challenge for reusable items too. One thing that's interesting is that over the last few years paper towels from the toilets basically disappeared. Toilets now just have an air dryer, but because of COVID-19 paper towels are now being re-introduced. I think it's going to present some real challenges in terms of waste"*. (Interviewee 13)

> "*We have a target to eliminate avoidable single-use plastics by 2032. Obviously we're going to see a lot more [single use plastics]. We had a lot of students use it*

and staff using reusable cups and we don't know if that will happen [with the promotion of reusable cups]. We were just about to pilot reusable food containers which we'll have put on hold. It will impact on the hygiene health and safety element, and also use a lot more hand sanitizer so there's going to be more products that will have waste like bottles, etc". (Interviewee 17)

These comments suggest that, on the one hand, the sharp rise in the use of personal protective equipment, single-use plastics, and many other items associated with health and safety makes it difficult for universities to keep waste and recycling in a downward trend (see Rume and Islam, 2020; Singh et al., 2020; Zambrano-Monserrate et al., 2020). On the other hand, the promotion of environmentally friendly reusable cups and food containers has had to be put on hold[16]. The template regarding these barriers to OS progress, derived from the data, is shown in the table below.

Table 4.6 Templates regarding the social, institutional barriers to English public universities' OS progress

1. Insufficient or inadequate legal and governmental coercion	● Weakening coercive pressure and short-termism of central and local government ● Decline of coercive influence from the sector regulator
2. Varied and limited social (non-government) pressures	● Insufficient pressures from students ● Decline of the influence of sustainability league tables ● Limited influence of professional associations on top management and the whole university
3. Main negative impacts	● further reduction in OS-related funding as a result

[16] It is important to consider that the impacts of COVID-19 are highly complex, multifaceted and wide-ranging. Some other (including positive) influences of this global pandemic on OS will be explored in 5.4.2. 'Contributions to and recommendations for practice'**.**

of COVID-19 crisis	of increasing financial pressures on universities ● new sustainability challenges

4.5 Chapter summary

Drawing on the interview and document data, this chapter has analyzed and presented research findings regarding the two research questions. With regard to research question one, firstly, the study has explored 'outside-in' rationales for English public universities' OS engagement through the lens of the neo-institutional approach. The empirical evidence indicated that various regulative, normative and cognitive institutions exert different coercive, normative and mimetic influences on universities' OS motivations and actions. Secondly, the researcher has examined the 'inside-out' rationales for OS engagement from a legitimacy theoretical perspective. The organizational rationales in association with a university's self-interest were discussed. Different sources of legitimacy and related practical self-serving benefits for a university to gain their support were analyzed. Moreover, the interplay (especially conflicts) between seeking moral legitimacy for substantive changes towards sustainability and ensuring organizational pragmatic self-interest, along with universities' conformance and compromise responses (in particular symbolic legitimacy management), were investigated. In respect of research question two, a range of barriers (at organizational and social institutional levels) to OS progress were examined.

Chapter Five: Discussion and Conclusions

5.1 Introduction

The preceding chapter analyzed the detailed themes/codes associated with the two general research questions, together with a large amount of empirical evidence from interviews and documents. It also related research findings to the relevant theories and literature. This final chapter consists of two main parts: discussion and conclusions. The discussion is presented in two large sections: the first section, from a critical perspective, presents further discussion of the results relating to the rationales for universities' OS engagement through both neo-institutional and legitimacy lenses; the second section further examines the barriers to universities' OS progress. After that, this chapter makes concluding remarks on the main findings and discusses how the research objectives are achieved. It then outlines the theoretical and practical contributions of this study, with an emphasis on how substantive sustainability changes could be made and how the associated problems and barriers could be overcome. Finally, a discussion of some limitations of this research and areas for future studies is presented.

5.2 Discussion

This part of the thesis will further discuss the key findings concerning two general research questions. The overall framework of the study, derived from interview and document data, is summarized in the table below:

Table 5.1 Framework of the study

Rationales	'Outside-in' rationale: a neo-institutional perspective	Coercive influences

		Normative influences
		Mimetic influences
	'Inside-out' rationale: a legitimacy perspective	Rationales associated with instrumental motivations for organizational self-interest (win-win business case)
		Maintaining legitimacy with different sources of legitimacy and benefiting organizational self-interest
		The interplay (consistency and conflict) between seeking pragmatic organizational self-interest and moral legitimacy for substantive sustainability changes ● Compromise, symbolic legitimacy management
Barriers	Organizational-related barriers	● Organizational management/structure-related barriers ● Organizational resource/capacity-related barriers ● Cognition/organizational culture-related barriers
	Social institutional-related barriers	● Insufficient or inadequate legal and governmental coercion ● Varied and limited social (non-government) pressures ● Negative impacts of COVID-19 on universities' OS

5.2.1 Rationales for universities' OS engagement

Research question one: Why do English public universities engage in sustainability activities in their (campus) operations?

Interview and document data reveal a mix of social institutional influences and organizational internal rationales, as answers to this question. This research identifies a range of coercive, normative and mimetic institutional mechanisms, influencing the universities' rationales for OS engagement. Various institutional factors also interact with universities' self-interest and their responses to manage organizational legitimacy, affecting managerial decision-making to undertake OS activities. It seems that, to some extent, organizational legitimacy seeking motivations act as links between external social expectations and pressures and organizational internal interests and goals.

The results of this study suggest that, while strategic legitimacy explanations (widely adopted by previous sustainability studies) form part of the rationales for an organization's OS engagement, the combination of various social institutional influences on the organization seems equally important. The researcher argues that utilizing both neo-institutional theory and legitimacy theory provides a 'richer' explanation of the reasons for universities' OS engagement (Borgstedt et al., 2019; Fernando, 2013; Islam and Deegan, 2008; Suchman, 1995).

5.2.1.1 Rationales: the perspective of institutional influences

The neo-institutional analysis of organizational OS motivations and actions focuses on the role of the social context in organizational activities. This study not only explores the questions of who the influential institutional actors are and what types of institutional mechanisms there are, it also examines the issues of why they are influential and how they exert influences. English public universities experience a mixture of coercive, normative and mimetic influences, to varying degrees, on their OS engagement. The institutional actors, such as the government, students (including grassroots student activist groups and students' unions), peer universities/competitors, and media are considered as important players in influencing OS-related decision-making of the sample universities. In addition, different institutional actors exerted mixed and varied pressures on organizational OS engagement, and the extent of their influences changes over time (as discussed in 4.4.2 'Social institutional-related barriers').

Coercive mechanisms focus on forced and/or persuasive influences (DiMaggio and Powell, 1983; Scott, 2014). All interviewees stated some regulatory institutions that exerted coercive influences, primarily from central government, local government and university sector regulator. This is consistent with prior studies employing neo-institutional approaches which suggest that regulators and other government authorities are crucial coercive forces, affecting sustainability practices of organizations (e.g. Wijethilake et al. 2017; Zhao and Patten, 2016; Beddewela and Fairbrass, 2016; Qian et al. 2011). Importantly, in relation to these institutions, the participants in this research offered further elaboration about why and how they impacted organizational OS decisions. Government authorities exerted influence through laws, regulations (including taxes), targets and policies, combined with financial resource allocation.

Scott (2014) suggests that normative institutions shape social values and norms. In terms of normative pressure, "a logic of appropriateness replaces, or sets limits on, instrumental behaviour" (Scott, 1995, p. 51). In some cases, normative institutional influences are associated with education, training and professional socialization (DiMaggio and Powell, 1983). Consistent with these views, the evidence from this research shows that OS activities are seen as 'the right thing to do' and the normative influences, to a limited extent, come from students, student activist groups and students' unions through a wide range of means and channels. This study indicates that sector sustainability professional associations may also have some elements of normative influence to a lesser extent.

According to Scott (2001, p. 175), normative institutional mechanisms imply that “Social actors working in particular organisational roles are expected to fulfil certain social commitments and obligations”. This study indicates that some students criticize and challenge universities’ existing practices and demand that universities take serious responsibility for their OS-related actions and impacts, reflecting normative influence. These findings are similar to the previous literature which finds that normative institutional influences may stem from activist groups, public expectations, and education and training (Wijethilake et al., 2017; Zhao and Patten, 2016; Qian et al., 2011).

The OS-related practices and performances of peer universities are perceived as relevant and influential institutional factors by the majority of interviewees. Mimetic isomorphism may occur when universities imitate other organizations’ activities. By doing so, universities try to reduce the uncertainty of adopting emerging technologies and approaches, avoid the possibility of being left behind, or improve their competitive advantages (see DiMaggio and Powell, 1983; Scott, 2014). This is consistent with prior sustainability-related empirical studies which demonstrate the existence of mimetic influences particularly from peer organizations (e.g. Ullah et al., 2020; Wijethilake et al., 2017; Gürtürk and Hahn, 2016; Bebbington et al., 2009; Zhao and Patten, 2016).

This analysis also unveils that there is a subtle interplay among different institutional influences. The various institutional mechanisms being discussed do not exist separately, but are combined with each other to exert pressures on universities’ OS engagement (DiMaggio and Powell, 1983; Scott, 2014; Bebbington, et al., 2009). First, the same institutional actor may exert multiple forms of influences. For example, this research shows that government authorities are the main sources of coercive pressure; they also have other forms of influence. The government has developed some voluntary guidance (e.g. a sustainable procurement flexible framework). Some interviewees perceived that, although these voluntary guidelines have no regulatory coercive power, they assist in universities' OS to some extent, for instance:

> "*I think from a procurement perspective, we've actually got [sustainable procurement] Flexible Framework level 5. ... I think it was 2016, they [the university] started working on it. It was seen as an opportunity to make sure that we are getting both consistent procurement, but also addressing our impacts on procurement as well. [...] It's useful to have something even if it's voluntary*." (Interviewee 16)

> *"...it [government guidance] is not necessarily enshrined in law…. this is more of policy development, just like giving a framework for the business to work out how we're going to operate… ... it will be guidance or will be best practice..."* (Interviewee 7)

In these cases, instead of being coercive forces imposing pressure on organizations, government authorities act as facilitators, helping and encouraging universities to make incremental improvements on OS. These findings show that government voluntary guidance can be considered as non-imposing flexible suggestions or recommendations - another form of government influence. Nevertheless, as indicated previously, there are a number of serious problems associated with government influences in respect of OS, impeding long-term development of OS (e.g. narrow focus on cost saving and operational efficiency, short-termism about policy formulation and investment payback requirements, less rigorous regulations, limited scope, lack of enforcement, funding reduction, guidance removal, and a new, even more relaxed, university regulator in this respect). Consequently, there is little evidence showing that the participants and their universities actually felt the pressure stemming from such voluntary guidance as a driving force. Furthermore, there is no indication that voluntary government guidance or suggestions, without any effective monitoring and enforcement, could result in substantive and systemic OS changes in universities.

Second, multiple influences from various institutional actors may interact. For instance, the findings of this study reveal that sustainability league tables and media may indirectly facilitate the mimetic influence of peer universities' OS practice and performance. Most top executives at universities pay considerable attention to organizational reputation and student recruitment. They are aware of the powerful influence of institutional mechanisms such as university rankings and mass media in this respect. The evidence from this research indicates that a university's performance compared with that of its peers/competitors in sustainability rankings plays a role in influencing organizational rationales for OS. Similarly, when peers' OS activities are highlighted by 'mainstream' media, the positive media publicity seems to enhance their organizational reputation/image and attractiveness to students. For some universities, this is viewed as something that they should follow and model, so as to maintain competitiveness. Hence, these institutional factors are likely to motivate universities to imitate the OS-related practices of their successful peers, reinforcing mimetic influence.

5.2.1.2 Rationales: legitimacy seeking and organizational self-interest

Apart from institutional explanations of perceived organizational rationales, drawing on legitimacy theory, this research examines a range of sources of legitimacy and the perceived corresponding practical benefits for the universities themselves if they meet the expectations of these sources. Surprisingly, similar to private companies, the results of this study indicate that sample public universities (key social institutions operating for the public interest) often use OS as part of the win-win business case for seeking organizational self-interest with respect to regulatory compliance and risk mitigation, funding acquisition, cost saving and operational efficiency improvement, student recruitment and retention, organizational reputation/image management, buildings and facility expansion, and competitiveness enhancement, etc. Many participants also perceived that university top executives give preference to OS programmes presented in ‘business case’ terms. These findings are in line with some prior sustainability literature (e.g. Pedersen et al., 2017; Schaltegger et al., 2012; Porter and Kramer, 2011). While private corporations privilege shareholder value maximization and profitability, public universities seem to put the organization-centric business case in a slightly ‘broader context’, emphasizing cost reduction and organizational reputation (see O’Dochartaigh, 2014).

From a critical perspective, the business case for sustainability, to some extent, implies and accepts that the incremental improvements in sustainability-related technical and management practices will be sufficient. Nevertheless, incremental responses limit the potential for fundamental, radical system changes which are greatly needed for achieving sustainability (Landrum and Ohsowski, 2018; Spence and Gray, 2007). In addition, the business case emphasizes practical solutions to more immediate problems faced by the organizations (Prasad and Elmes, 2005), but such pragmatism does not truly challenge and transform the existing (but unsustainable) organizational systems and core operational models - ‘business as usual’ (Tregidga and Milne, 2006) - which avoid making the ‘painful choices’ of sustainability (World Commission on Environment and Development of the United Nations, 1987) and the conflicts between sustainability and economic interests - ‘win-lose’ situations. In other words, the ‘doing well by doing good’ thinking is sometimes likely to downplay the ethical elements of social and environmental sustainability which may not match the win-win objectives (Crane et al., 2015; Pedersen et al., 2017). Business case “has also become dangerously confused with advancing a just and sustainable world’’ (Milne and Gray, 2013, p. 24).

Molthan-Hill (2015) contends that the organizational focus on short-term financial and other self-serving business case benefits is less likely to result in substantive changes. These (organizational self-interest oriented) ‘business case’ rationales for engaging in OS should be challenged and changed, especially in social mission organizations (including English public universities) that serve the public interests and give prominence to societal goals over economic ones. She further argues that business case assumptions should not be the prevalent organizational rationales; instead, it would be better to replace them with survival or financial stability rationales.

In this context, the government, students, media and the public are perceived as influential sources of legitimacy. Each group can offer some forms of regulatory, financial and/or sociocultural support for universities to pursue their organizational goals and self-interest. This part of the analysis concerning why universities engaging in OS emphasizes a mix of organizational self-interest and legitimacy seeking motivations, in which managers purposely undertake OS activities when different external (societal) and internal (organizational) factors intersect. Universities have to meet the expectations of different stakeholder groups through either actually meeting what they expect or appearing to conform to what they demand.

If particular constituents in the society are perceived to have significant influences on a university's long-term survival and growth, the university is likely to attempt to adopt practices that meet what those powerful constituents (sources of legitimacy) demand. In return for this conformity, the university would obtain various pragmatic benefits, ensuring its organizational self-interest (see Leung and Snell, 2017; Suchman, 1995; Ashforth and Gibbs, 1990). For example, if the university conformed to the demands of the government, in return for the conformity, it would be ensured continued operation, compliance risk mitigation, access to funding and operational cost saving. Organizational participants also perceived that OS offered an approach to gaining and maintaining legitimacy with students mainly for managing organizational reputation and branding, recruiting students and increasing income. In addition, universities recognized the practical benefits of OS in terms of maintaining legitimacy with media and the general public for managing organizational image and helping student recruitment.

These research findings are congruent with prior literature which suggests that organizations gain support from different sources of legitimacy (Deephouse et al., 2017; Deephouse and Suchman, 2008). From a different perspective to the neo-institutional approach, legitimacy theory provides a more focused or clearer view of the strategic management of organizational activities. Thus legitimacy theory offers a high level of explanatory power in terms of examining rationales for sustainability activities, from an organizational/managerial point of view (Deegan, 2014). For these universities, engaging in OS, in part, seems to be a carefully considered rational choice, because it could help them manage their organizational legitimacy and it contributes to protecting or furthering organizational self-interest (see Suchman, 1995). Universities value the practical benefits that some OS initiatives offer. They would carry out OS activities partly because the perceived benefits of conformity outweighed the costs of doing so (see Deephouse and Suchman, 2008).

This research unveils the interplay (consistency and conflict) between moral legitimacy advocating long-term, substantive, whole institution transformation towards OS and short-term, narrow, pragmatic, organizational self-serving interests, as well as universities' perceived responses (substantive and symbolic engagement) to such interplay. In some instances, some universities in England use OS as a means of managing legitimacy from stakeholder groups. This research reveals that sample universities adopt both substantive and symbolic strategies, but their approaches are more inclined towards symbolic legitimation. Despite the fact that there has been a normative expectation, among different stakeholders, that universities will engage in OS deeply and widely and take their sustainability responsibility in a substantive way, this analysis suggests insufficient adherence to such societal expectations for substantive actions.

This study identifies limited substantive OS activities in certain areas of OS. The analysis indicates that these organizations attempt to conform to powerful stakeholders' expectations especially when sustainability demands are consistent with their practical organizational self-interest (e.g. in the area of energy consumption reduction/cost saving). These findings are in line with the previous literature, which demonstrates that conformity (substantive actions) is likely to occur if an organization thinks such compliance may lead to the fulfillment of its self-interest (Beddewela and Fairbrass, 2016). Ashforth and Gibbs (1990, p. 182) also assert that ". . .the more consistent the constituent's preferences are with those of other key constituents and with management's own agenda. . . the more likely management is to offer a substantive rather than a symbolic response". However, universities' OS engagements seem to reflect limited substantive actions. Individual substantive responses do not lead to 'whole institution' substantive OS changes. There is little evidence that, by such conformity, universities truly embraced OS in a systemic manner and overall substantive transformation took place.

The analysis also reveals tensions and conflicts between sustainability-related managers' attempts to pursue moral legitimacy for the good of society and environment (with prosocial, altruistic grounding) and universities' pragmatic self-serving benefits. In examining companies' sustainability-related decisions and activities, Beddewela and Fairbrass (2016) argue that some organizations use compromise approaches (Oliver, 1991) to strategically establish legitimacy and reconcile the conflicts between external stakeholders' sustainability-related demands and organizational internal interests. Similar to this view, the findings of this research show that, in some instances, sample universities tend to make compromises when facing conflicts between moral legitimacy for sustainability and organizational self-interest (e.g. organizational expansion, financial payback, and managing organizational reputation/branding). This is particularly evident in the areas where direct, short-term and self-serving benefits are not readily visible or coercive external pressures are weak (e.g. sustainable procurement and ethical banking/investment).

Ellram and Golicic (2016, p. 599) point out: "While these actions [for seeking moral legitimacy] are not necessarily free from self-interest, the prosocial perception is such that the primary goal of such behavior supersedes narrow self-interest (Suchman, 1995)". Moral legitimacy suggests that, when actions to seek narrow organizational self-interest undermine wider social and environmental development, responsible universities are expected not to pursue short-term pragmatic benefits at the expense of other constituents, including the environment; instead, they may need to sacrifice some of those self-serving organizational goals and economic interests (see Molthan-Hill, 2014). However, pragmatic considerations of organizational self-interest often prevail in practice (see Leung and Snell, 2017; O'Dwyer et al., 2011; Deegan, 2014).

Furthermore, as a compromise response, universities may sometimes engage in symbolic OS engagement for maintaining legitimacy in a superficial way. The examples of symbolic management evidenced in this study include emphasizing relative rather than absolute carbon reduction performance indicators and using organizational growth as the excuse; various small-scale, short-term OS initiatives focused on 'quick wins', 'easy paybacks' and 'low-hanging fruits', primarily for public relations purposes and appeasing stakeholders. Symbolic activities would show some level of OS commitment while making no fundamental OS transformation to their operations, resulting in a symbolic gesture; the substantive responses and real impact on actual OS performance are limited. These results support the theoretical view of symbolic legitimacy management (Ashforth and Gibbs, 1990). However, these tactics of managing legitimacy seem to be more beneficial to a university itself than to the wider society and environment. And these symbolic engagements fail to make substantive changes to a university's main goals, strategic priorities and core operational activities, while they appear to strengthen the university's position as a legitimate organization (Ashforth and Gibbs, 1990; Rodrigue et al., 2013; Soobaroyen and Ntim, 2013; Leung and Snell, 2017).

A variety of external and internal-oriented factors influence the rationales for English universities' OS engagement in multiple and sometimes conflicting ways (Hoffman, 1999; Jennings and Zanderbergen, 1995). It seems that organizational self-interest and existing main goals affect managerial decision-making on universities' efforts to seek legitimacy from a variety of powerful social institutional actors. This analysis concurs with the results of the previous studies which investigate the institutional and organizational complexity in terms of the reasons for sustainability engagement (e.g. Leung and Snell, 2017; Bebbington et al., 2009; Islam, 2009). A range of institutional mechanisms interacts with different organizational/managerial motivations to shape OS as an 'appropriate', 'normal' activity for universities, while furthering organizational self-interest.

From a critical point of view, in the process of OS engagement, some universities' pragmatic priorities and relevant reactions prevail over the development of true sustainability accountability. The win-win business case seemed to be the main/prevalent organizational rationality and, in many cases, OS activities are oriented to serving organizational pragmatic self-interest and are subordinate to them (Leung and Snell, 2017). In contrast, to some extent, ethical responsibilities for the environment and society are 'add-ons', no matter how espoused in the organizational discourse. If OS was developed or used more widely in this vein, it would owe "…more to advertising, public relations and image construction than it [would] to accountability and transparency" (Gallhofer and Haslam, 1997, p. 158), with the danger of a university undertaking OS activities selectively, symbolically and instrumentally, in accordance with its own organizational pragmatic interests (Leung and Snell, 2017; Ashforth and Gibbs, 1990; Beddewela and Fairbrass, 2016; Aguinis and Glavas, 2012).

5.2.2 Barriers to universities' OS progress

Research question two: What are the barriers encountered by public universities in England while engaging in sustainability activities in campus operations and how do these barriers affect OS progress?

Having examined the complex rationales for universities to carry out OS activities through neo-institutional theory and legitimacy theory, the study answers research question two by critically examining the empirical results concerning the main barriers and comparing them with the existing literature. Furthermore, a conceptual framework of barriers to advancing universities' OS is presented. Barriers found in this qualitative study can be divided into two main categories: organizational and social institutional. Firstly, the research identifies important internal organizational-related barriers to furthering OS, comprising organizational management/structure-related barriers, organizational resource/capacity-related barriers, and cognition/organizational culture-related barriers. Secondly, the findings of this study unveil external institutional-related barriers to OS progress, consisting of insufficient or inadequate legal and governmental coercion, limited pressures from other (non-governmental) stakeholder groups, and negative impacts of the COVID-19 pandemic.

5.2.2.1.1. Organizational-related barriers

Three key factors revealed in the present study are grouped under organizational management/structure-related barriers: inconsistency between long-term wider OS and organizational short-term economic interests, the perceived low strategic priority of OS within universities, and insufficient top executives' support. The findings of this study are consistent with prior sustainability literature. This research unveils that the expected lack of short-term economic benefits for universities to make long-term sustainability investments could be a barrier to OS in English public universities (see Avila et al., 2017; Slawinski et al., 2017; Kuppig et al., 2016; Panwar et al., 2016; Verhulst and Lambrechts, 2015), especially in the areas where there are no direct, visible financial returns, such as fairtrade, sustainable procurement or ethical banking and investment, etc. Corporate-style management ideas and practices have been prevalent in higher education institutions, and top university administrators have tended to act more like CEOs than as academic leaders (Aronowitz, 2000). An OS initiative is more likely to be supported by senior executives with a business mentality if it can provide cost-saving opportunities in the short term (Barnes and Jerman, 2002). Conversely, some OS activities such as composting and sustainable procurement cannot fit into cost-benefit equations, so these initiatives may not receive sufficient and continuous management support (Velazquez et al., 2005).

The main argument used by some universities for not investing in long-term large-scale OS projects is they lack cost efficiency (Dahle and Neumayer, 2001). They also contend that, after completing short payback initiatives, the savings generated are often not used to fund projects with long payback periods, but instead are put to other, more ‘urgent’ uses. Long-term programmes can be left unaddressed as a result of this, as they seldom appear economically appealing to organizations. Nevertheless, given that the majority of public universities plan to remain in operation for a long period of time, perhaps even for hundreds of years, long payback sustainability investments should be justifiable (Creighton, 1999).

OS demands may be inconsistent with universities’ instrumental goals and interests, because OS requires substantive changes to what organizations aim to achieve and how they conduct activities so as to reduce the environmental and social impact of their operations. The incompatibility between social institutional expectations (in this context fundamental organizational changes towards OS) and existing overriding organizational internal goals and interests may negatively influence OS progress in universities (see Oliver, 1991).

There is a perception that low priority of OS within universities and lack of senior management commitment to OS could impede environmental and social development in their organizational campus operations (see Avila et al., 2019; Leal Filho et al., 2019; Blanco-Portela et al., 2018; Aleixo et al., 2018; Elliot and Wright, 2013). These issues could create or exacerbate other barriers, such as a lack of financial and human resources (Shriberg, 2002).

Another category identified in this research, organizational resource/capacity-related barriers, comprises three themes: lack of financial resources for OS, insufficient dedicated OS human resources, and other organizational members' lack of time to participate in OS. These results are in line with previous sustainability studies. Without adequate financial resources, managers find it difficult to achieve the set targets of these projects or even continue them (Aleixo et al., 2018; Blanco-Portela et al., 2018; Avila et al., 2017). The small number of dedicated sustainability staff may not be able to meet the various expectations of a broad range of OS-related constituents efficiently and effectively (Ceulemans, et al., 2014; Jabbour, 2010). It should be noted that, in some cases, the problems with insufficient resources seem to be more significant to many small, teaching-oriented universities than certain large, research-led ones (e.g. some Russell Group member universities), as these smaller institutions have more limited income sources and greater budget constraints.

In addition, managers responsible for sustainability issues are largely dependent upon volunteers for the promotion and implementation of OS programmes and expect active engagement from the wider university community. However, executives, academics, professional service staff and students all have other primary obligations and are very busy. Consequently, when sustainability staff ask other organizational members to engage in OS, sometimes they face resistance (Sourani and Sohail, 2011; Velazquez et al., 2005).

According to interview and document data, lack of awareness, interest and knowledge about OS among different organizational members and a silo mentality are perceived to be the common cognition/organizational culture-related barriers. The lack of interest in and understanding of OS may result in limited engagement of senior university administrators, academics, professional service staff and students (Avila et al., 2019; Aleixo et al., 2018; Dahle and Neumayer, 2001). People with an insular silo mentality tend to put their ‘parts’ before the ‘whole’ (de Waal et al., 2019). And organizational silos may adversely affect cross-boundary OS collaboration and cooperation, hindering the ‘whole institution’ changes towards sustainability (Waheed, 2017a; Adams, 2013).

5.2.2.1.2 Social institutional-related barriers

Given the nature of the participants’ responses from interviews and document evidence, social institutional barriers are analyzed from the following three different aspects. Firstly, the results of this research indicate that the lack of adequate legal and governmental coercion is considered to be an institutional barrier to OS development. According to the data, the coercive influences from the government on higher education institutions’ OS have decreased in recent years. The government authorities, in particular the central government and the sector regulator, used to be relatively ambitious about promoting sustainability at universities. However, the strength and scope of the overall government pressures and commitments, such as central leadership, laws and rules and compliance enforcement, have diminished. Government authorities have discounted a number of related programmes and removed some funding opportunities and guidance. Government authorities sometimes appear to have had inadequate and even adverse influences on organizational OS, owing in part to their short-termism. In the long run, the continuous development of OS is obstructed by the government’s short-term thinking and inappropriate regulations/policies.

Drawing on insights from both sustainability literature and neo-institutional theory, this study shows that the lack of adequate coercive pressures imposed by the government could be a barrier to moving universities towards OS transformation.

Prior sustainability research suggests that insufficient enactment, monitoring and enforcement, and the government's short-termism weaken coercive regulatory pressures (Avila et al., 2019; Wijethilake et al., 2017; Brandli et al., 2015; Sourani and Sohail, 2011). In this respect, mandatory compliance seems more effective than voluntary activities (Alotaibi et al., 2019; Sourani and Sohail, 2011; Velazquez et al., 2005).

These findings are also consistent with neo-institutional theory (e.g. Oliver, 1991; DiMaggio and Powell, 1983; Scott, 2014), which stresses that legal or governmental coercion influences organizational reactions to institutional expectations and norms. "Institutional control describes the means by which pressures are imposed on organizations" (Oliver, 1991, p. 168). Organizational resistance may occur if an organization experiences a low degree of legal or governmental coercion (Oliver, 1991).

Secondly, limited social (non-government) pressures are perceived as another institutional-related barrier. Interviewees stated that local students' unions at various universities have varying and mixed influences. Some participants did not strongly feel the influence of their students' unions. Despite the fact that many students seem to recognize the importance of sustainability, some are not deeply engaged in their own organizational OS. And, when deciding at which university they want to study, a large share of students may not consider the university's OS as a key deciding factor. While the influence of the university sustainability league table is viewed to be significant, its pressure has decreased. Additionally, it appears that influence from professional associations is largely limited to sustainability practitioners in the university sector rather than influencing the top management of various universities.

These findings are in line with the previous sustainability literature, which points out that a lack of social pressures from various non-government stakeholders hinders OS progress (e.g. Blanco-Portela et al., 2017; Brandli et al., 2015; Ceulemans et al. 2014;

Waas et al., 2012; Ferrer-Balas et al., 2008). Moreover, researchers, through the institutional perspective lens, argue that, if the relevant (non-regulatory) social institutional pressures are insufficient or inadequate, organizations may not fully engage in sustainability-related activities (Amaeshi et al., 2016; Campbell, 2007; Deakin and Whittaker, 2007). When social pressures are undemanding and promoting OS changes is largely on a voluntary basis, universities may undertake OS activities in a symbolic rather than a substantive manner, especially in the areas where there are no short-term practical benefits for organizations (Aguinis and Glavas, 2012; Chang and Deegan, 2010).

Thirdly, the negative impacts of the COVID-19 pandemic are found in this study as a crucial factor adversely affecting OS progress. According to the interviewees, universities' financial situations have been hit badly by the substantial decrease in student enrollment/accommodation and grants as a result of COVID-19 (see Bolton and Hubble, 2020; Institute for Fiscal Studies, 2020). The considerable loss of income will probably result in a further reduction of OS-related funding.

Additionally, universities experienced a significant rise in both healthcare and domestic waste because of this pandemic. These issues have contributed to environmental degradation and presented extra waste and recycling challenges. Fadare and Okoffo (2020) report that plastic-related safety devices, such as face coverings and gloves, may be sources of microplastic fibers in the natural environment. "Usually, Polypropylene is used to make N-95 masks, and Tyvek for protective suits, gloves, and medical face shields, which can persist for a long time and release dioxin and toxic elements to the environment" (Rume and Islam, 2020, p. 5). In addition, due to COVID-19, lockdown, quarantine and other restriction measures have resulted in a dramatic growth in internet shopping, causing a surge in domestic waste produced by additional home delivery package materials (Zambrano-Monserrate et al., 2020).

5.2.3 Linking the issues of 'rationales' with 'barriers'

Based on the findings of this research, it is interesting to note that the influences of various institutional mechanisms in this context are complex and changing. When linking the research issues of the 'rationales' with the 'barriers', it appears that, at the time of the study, the legal, governmental and social conditions relating to OS were having some influences on English public universities' OS activities, but overall they were relatively undemanding. In these circumstances, universities in England were not widely regarded as having serious legitimacy gaps in some areas of their OS and were not under strong institutional pressures to make substantive sustainability changes. For example, these universities seemed to experience decreasing coercive pressure from the government; they may also face limited normative and mimetic pressure from other constituents. Thus, the insufficiency of institutional pressures can weaken the significance and urgency of legitimacy to be conferred by the OS-related stakeholder groups. In the absence of widespread and strong institutional pressures, some universities are likely to shape OS in ways beneficial to themselves (see Leung and Snell, 2017).

This research examines two 'sides' of institutional pressures. It not only explores the positive changes towards OS that the coercive, normative and mimetic institutional mechanisms bring about, it also analyzes the limitation, decline and even inadequate presence of such institutional influences, from a reflective and critical perspective. These findings differ from some previous studies which only identified the existence of institutional pressures on organizational sustainability engagement.

For more than a decade, English higher education institutions have been working towards the integration of sustainability into their systems (Shiel and Williams, 2015; Waheed, 2017c). Consistent with the literature, in this study, sample universities' internal documents showed that the majority of English universities have initiated some activities in certain aspects of OS for years (e.g. published sustainability-related statements, formulated sustainability strategies and/or policies, recruited OS-related staff on either a full-time or a part-time basis, and set up relevant working groups and committees, etc.).

Interestingly, while the previous literature considers that a lack of sustainability policies, committees, working groups and offices act as barriers (Avila et al., 2019; Avila et al., 2017; Gudz, 2004), they were less mentioned by the participants at the time of the interviews. This may be partly due to the fact that those studies are not English public universities-specific; many sample universities in this context have already developed these structures. However, one would argue that, even if universities adopted these measures, they do not seem be sufficient or effective enough to make substantial progress to sustainability and lead to systemic changes, without deeply understanding the complex rationales and the main barriers discussed above and addressing them in a fundamental and even radical way. For instance, if a university does not hold the Vice-Chancellor and the senior management team directly accountable for its OS performance and does not shift its existing strategic focus and give priority to OS, in certain circumstances, these structures may even become 'box-ticking' exercises to some extent and be used by the organization to show that it has made improvements and OS-related problems are under its control, appeasing the relevant stakeholders and symbolically managing legitimacy.

From a critical perspective, in universities, while certain OS-related efforts are helpful, they are still operating inside the prevailing 'business as usual' framework. In the course of analyzing their empirical data regarding organizational rationales for sustainability-related practice, Bebbington et al. (2009, p. 613) adopted an approach to searching words "usually associated with more radical articulations" of sustainability. A similar method was used in this study and the researcher found less mention of words like moral or ethical responsibility/obligation, accountability, social justice and equality, workers' rights, absolute carbon reduction or ecological footprint. In contrast, the words frequently mentioned were saving money, operational efficiency, business case, maximum five-year payback period, expanding buildings and facilities, recruiting students, managing reputation/public relations, relative carbon reduction or statements that OS "did not pose significant challenges" to universities' main goals and core operations (Bebbington et al. 2009, p. 613).

In addition, the findings of this study corroborate Molthan-Hill's (2014) considerations that, in many British organizations, sustainability-related issues/challenges seem to be reconstructed as largely technical problems. Organizations and managers tend to use conventional top-down, technocentric and, in many cases, short-term measures to analyze and tackle these problems. However, Molthan-Hill (2014) points out that sustainability-related problems should be viewed as ethical problems. Such technology-oriented bureaucratic, and sometimes box-ticking, quick fixes are not enough and are even inappropriate (Jones, 2017).

Ashforth and Gibbs (1990, p. 181) warn that "the organization might adopt certain highly visible and salient practices that are consistent with social expectations while leaving the essential machinery of the organization intact." Gray and Milne's (2002, p. 67) further argue that substantive changes towards sustainability would require organizations to "demonstrate that they were both reducing their total impact on the environment (a most unlikely outcome when they are seeking growth) and also reducing the disparities between the poor and the wealthy (again a most unlikely outcome for a successful capitalist organisation)". In this light, the current OS activities in English public universities are possibly incremental, 'business as usual' oriented, and even sometimes symbolic and superficial (Ashforth and Gibbs, 1990; see also Leung and Snell, 2017). And they do not seem to undergo the 'whole-institution', fundamental transformation towards sustainability. Therefore, it is a crucial, urgent and challenging task for academics to work with law and policy makers, university administrators, student organizations, activist groups, media and professional bodies together to move universities away from this trend of maintaining 'business as usual', change organizational rationality, revise organizational systems, create new operational models, and push them towards substantive sustainability transformation.

On a broad level, there are concerns that, instead of deeply engaging students with sustainability decision-making at a strategic level, the idea of a university as a business and students as customers (derived from New Public Management and neoliberalism) may lead to the institutional focus on university finances, commercialization of sustainability (i.e. using sustainability activities as devices for marketing organizations and recruiting students) and even the possibility of 'greenwashing'. "The commodification of sustainability was linked with doing so for improved ratings, reputations or enrolments, all of which also tied into superficial sustainability and university finances" (Elliott and Wright, 2013, p. 12).

The prevalence of New Public Management has changed the funding structures and operational models of universities and influenced their management ethos. Corporate ideas and approaches have been widely adopted in university operations, e.g. value for money, return on investment, students as customers, universities as service providers, and academic CEO's, etc. (see Elliott and Wright, 2013). In the increasingly competitive higher education market, English universities have become more "fiscally focused, businesslike and managerialist... The changing direction of university strategic plans and policy priorities towards increased income generation, innovation, commercial enterprise, business engagement" highlight the significant changes led by New Public Management (Bessant et al., 2015, p. 420).

This study unveils that English public universities, in many cases, pragmatically manage legitimacy with the government, students and media and align their OS responses to cost reduction, income generation, student recruitment, marketing/branding, and competitive advantages, representing a New Public Management approach while downplaying and even avoiding difficult and painful systemic OS change. This reinforces neoliberal ideas of efficiency, market competition and quasi-corporate culture.

This research also reveals the conflicts between pragmatic organizational interests for universities themselves (partly as a result of the strong influence of neoliberal ideology and policy structure) and moral responsibilities for holistically addressing environmental and social problems (advocated by the sustainability ideal). To some extent, sustainability is inconsistent with neoliberalism (Hatzisavvidou, 2020). Some scholars argue that the primacy of a neoliberal ethos in the university sector has undermined the underlying values like social and environmental accountability and making decisions through a bottom-up, democratic process (Bessant et al., 2015; Devaney and Weber 2003; Saravanamuthu and Tinker 2002).

Within this neoliberal climate, universities and their top executives tend to focus on financial and operational efficiency, market competition and top-down decision-making, while not giving strategic priority to OS. And senior leaders are reluctant to make a full commitment to OS due to various restrictions. As a result, sufficient financial resources and dedicated human resources are not allocated to OS. Moreover, New Public Management encourages the adoption of private sector business-style managements which emphasizes a range of established, discipline-based teaching and research assessment metrics, student recruitment, and marketable skill training for students. These practices may contribute to a silo mentality and the lack of awareness, knowledge and participation relating to OS among students, academics and professional service staff.

Moreover, this research shows that the efficiency/market competition-oriented New Public Management policy model may be associated with deregulation and removal of OS guidance, pragmatism and the short-termism of central and local government and the sector regulator in this respect. Such trends in government directions may, in turn, result in the weakening legal and governmental pressures on organizational OS, funding reduction in OS, shortsightedness and incrementalism of universities' OS engagement (see O'Neill and Sinden, 2021).

Environmental and social sustainability often inhibits the continuous accumulation of economic capital and the depletion of natural resources (O'Neill and Sinden, 2021). However, the current, prevalent, usually efficiency/market-driven systems are incapable of resolving serious sustainability-related crises such as the climate emergency. In fact, the existing "system of capital accumulation with its commitment to material growth of economies" (Gills and Morgan, 2020, p. 897) seems to maintain the status quo and become an impediment to more ambitious sustainability changes (O'Neill and Sinden, 2021). For this reason, both the government and universities need to search for democratic and even radical alternative systems which disrupt 'business as usual' and go beyond the neoliberal New Public Management model (Bessant et al., 2015).

5.3 Conclusions on research aim, objectives and questions

As identified in Chapter One, the aim of this study is to explore the rationales for English public universities to engage in sustainability activities in campus operations, and barriers to OS progress, with a particular interest in the perceptions and experiences of university personnel directly involved in these activities at a managerial level. Based on the research aim, two research questions are posed to guide this study: (1). Why do public universities in England engage in sustainability activities in their campus operations? (2). What are the barriers encountered by public universities in England while engaging in sustainability activities in campus operations, and how do these barriers affect such activities?

In addressing the research questions, the specific research objectives are:

1. To understand the rationales for public universities in England to engage in OS-related activities as perceived by managers directly involved in such activities.

2. To explore barriers to OS progress in English public universities.
3. To make theoretical and practical contributions and offer suggestions that could practically help universities, sustainability-related professionals and constituents to advance OS.

To answer the research questions and achieve the research aims and objectives, semi-structured interviews were conducted with one experienced manager from each of 20 English public universities with different organizational characteristics. More than 800 relevant external and organizational internal documents were also collected and analyzed. The findings of this thesis are summarized and concluded below.

Exploring the rationales for English public universities' OS engagement

On the basis of empirical evidence, this research unveils two main rationales: external institutional influences and internal organizational motivations. Interview and document data have been examined through the lenses of both neo-institutional theory and legitimacy theory to explore how the managerial decision-making in terms of OS is affected by a variety of institutional forces, and the universities' efforts to maintain organizational legitimacy and protect multiple forms of organizational internal practical interests. First, this research has found that, in this regard, universities experience various coercive, normative and mimetic influences to differing degrees (DiMaggio and Powell, 1983; Scott, 2014). Furthermore, different types of influences may be applied by the same institutional actor; these institutional mechanisms sometimes interact with each other.

Second, this research has also revealed the inter-connected, internal organizational rationales for OS engagement. Universities wish to appear 'legitimate' to differing legitimacy sources (e.g. the government, students, the ranking tables of the activist group, media and the public in this setting). Each source can offer some types of regulatory, financial and/or social support to organizations. If particular stakeholder groups are seen to be influential to a university's survival and development, the organization may comply or appear to comply with the expectations of these powerful stakeholders. In return for this conformity, it would obtain a range of practical benefits, securing its own organizational interests.

Moreover, the findings of this study have shown the inter-relationship (compatibility and incompatibility) between promoting moral legitimacy for substantial and meaningful (but difficult and painful) sustainability transformation and ensuring universities' internal self-serving interests. According to the (in)consistency between moral legitimacy for OS and universities' own pragmatic interests/objectives, sample organizations appear to use conformance and/or compromise strategies to respond to OS-related demands from various constituents. A compromise approach may be adopted when organizational narrow, instrumental motivations (e.g. campus growth, economic return, cost reduction or organizational reputation management) conflict with normative ideals of caring for the broader environment and society. In many cases, it seems that some universities symbolically and pragmatically use OS in order to manage legitimacy with influential stakeholder groups mainly to promote their organizational self-interest. The substantive responses and real impact on actual OS performance are limited and insufficient.These symbolic legitimation practices may stifle the implementation of substantive changes that lead to OS (moral legitimacy). The summary of the rationales for universities' OS engagement is presented in the table below.

Table 5.2 Summary of the rationales for universities' OS engagement

1. 'Outside-in' rationale: different social institutional influences	1.1 Perceived coercive influences	Coercive influence of central government, sector regulator and local government through laws, regulations, target, policies and funding

	1.2 Perceived normative influences	Limited normative influence from students (to a degree, grassroots student activist groups and students' unions) and sustainability professional bodies
	1.3 Perceived mimetic influences	Perceived mimetic influences mainly from peer universities' practice and performance Universities influenced by peers' performance in sustainability league tables and media publicity, reinforcing mimetic influence
2 'Inside-out' rationale: legitimacy seeking and organizational self-interest	2.1 Rationales associated with instrumental motivations for organizational self-interest	Such pragmatic rationales emphasize win-win business case
	2.2 Maintaining legitimacy with different sources of legitimacy and benefiting organizational self-interest	Maintaining legitimacy with the government and mitigating compliance risk, obtaining funding, and saving cost Maintaining legitimacy with students and managing organizational reputation and branding, recruiting students and generating student tuition fee income

		Maintaining legitimacy with the media and the general public and managing organizational reputation/image and helping to recruit students
	2.3 The interplay (consistency and conflict) between seeking pragmatic organizational self-interest and moral legitimacy for substantive sustainability changes	Limited substantive actions especially when normative sustainability demands (moral legitimacy) consistent with organizational pragmatic self-interest Compromises (symbolic legitimation) when confronting tensions/conflicts between pragmatic organizational interests and moral legitimacy for sustainability ● Conflicts between gaining moral legitimacy and organizational expansion, making investment/saving cost, and managing organizational reputation; symbolic engagement ● Symbolic legitimacy management and lack of substantive OS changes

Understanding the barriers to OS progress in English public universities

The study has achieved this research objective by critically analyzing the interview and document data concerning the barriers and relating them to the extant literature.

The barriers revealed in this empirical research can be categorized into two groups: organizational (internal perspective) and social institutional (external perspective).

This study has identified organizational-related barriers impeding OS comprising organizational management/structure-related barriers, organizational resource/capacity-related barriers, and cognition/organizational culture-related barriers. From a different dimension, this research has also shown social institutional-related barriers to furthering OS, such as insufficient or inadequate legal and governmental coercion, limited pressures from other (non-governmental) stakeholders, and the adverse influences of COVID-19. The table below provides a summary of barriers to OS advancement. This is also the refined conceptional framework which is examined and supported by the empirical evidence of this study.

Table 5.3 Summary of barriers to OS progress

1. Organizational-related barriers	1.1 Organizational management/structure-related barriers ● inconsistency between OS and organizational short-term economic interests ● OS is not universities' top strategic priority ● insufficient support and commitment from top management 1.2 Organizational resource/capacity-related barriers ● insufficient financial resources ● lack of dedicated human resources ● Other organizational members' lack of time to participate 1.3 Cognition/organizational culture-related barriers

	• lack of awareness, interest and knowledge about OS among different organizational members • silo mentality
2. Social institutional-related barriers	2.1 insufficient or inadequate legal and governmental coercion • weakening coercive pressure and short-termism of central and local government, the decline of coercive influence from the sector regulator 2.2 Varied and limited social (non-government) pressures • insufficient pressures from students, the decline of the influence of league tables, and limited influence of professional associations 2.3 Negative impacts of the COVID-19 crisis • further reduction in OS-related funding as a result of increasing financial pressures on universities • new sustainability challenges

Making theoretical and practical contributions and suggestions

To achieve this objective, this research makes several theoretical and practical contributions which will be discussed in the following sections. A number of recommendations for practice and policy will also be provided.

5.4 Research contributions

This section summarizes several areas in which the present study has contributed to theory and practice. The relevant research gaps identified in the literature have been highlighted in Chapter Two.

5.4.1 Theoretical contributions

This professional DBA research seeks to make three theoretical contributions to sustainability literature relating to higher education institutions. The first part of the present analysis investigates how managers perceive the organizational rationales for undertaking OS activities and interpret these from the perspectives of organizational legitimacy theory and neo-institutional theory.

First, the previous sustainability research, applying legitimacy theory to understand the rationales for OS engagement, tends to emphasize society as a whole, but sufficient attention has not been paid to particular stakeholder groups within society. Deegan (2014, p. 265) criticizes "this provides poor resolution given that the society is clearly made up of various groups having unequal power or ability to influence the activities of other groups". This empirical study conducts an in-depth analysis of different stakeholders who confer legitimacy to a university with regard to its OS engagement (e.g. the government, students and the student-led activist group and the media) and the influences of these stakeholders. This research also addresses this issue by examining why and how universities respond to the demands of these different stakeholders and maintain legitimacy from them. Universities manage legitimacy from these stakeholders mainly for protecting/furthering universities' pragmatic organizational self-interest.

Moreover, Crossley et al. (2021) point out that there are very limited empirical studies relating to the use of substantive and/or symbolic legitimation approaches (Ashforth and Gibbs, 1990) within operational sustainability research generally, and they are almost non-existent with respect to higher education institutions' OS. This research reveals that sample universities adopt both substantive and symbolic strategies, but their approaches are more inclined towards symbolic legitimation. In the process of OS engagement, universities experience conflicts between pursuing moral legitimacy for the good of society and environment and seeking universities' own instrumental benefits - these two rationales are sometimes competing. As a compromise response, universities in many cases respond to the sustainability demands of stakeholders in a symbolic, superficial way. Symbolic legitimation tactics used by universities include espousing socially acceptable goals but actually adopting less socially acceptable ones, offering excuses and ceremonial conformity (Ashforth and Gibbs, 1990). There are limited and insufficient substantive OS engagements. Short-term symbolic legitimation activities may undermine the long-term development of moral legitimacy for sustainability.

Second, while studies adopting neo-institutional theory have focused on analyzing private companies' sustainability practices (Juárez-Luis et al., 2018), there is a lack of empirical research examining the organizational rationales for OS engagement in public higher education institutions through neo-institutional perspectives. The purposeful organizational legitimacy seeking motivations, based on rational, deliberate, resource-dependence managerial decision-making, may only provide partial explanations of the complex reasons for universities to engage in OS. Neo-institutional theory broadens our understanding and provides a differing but complementary view on how a mix of societal pressures affect the rationales for OS engagement. This empirical research sheds new light on the reasons for English public universities to undertake OS activities utilizing the neo-institutional framework (DiMaggio and Powell, 1983; Scott, 2014). Apart from identifying the influential institutional actors and different forms of institutional mechanisms, this study adds to our knowledge of why they are influential, how they apply pressures and the limitations and decline in some of their influences.

Third, the second part of the present analysis adds to the body of knowledge about the barriers to advancing OS. There is limited in-depth, engagement-based, qualitative empirical evidence on the barriers to OS progress in the context of universities (Blanco-Portela et al., 2017; Ceulemans et al., 2014; Shiel and Williams, 2015). This research actively engages with key organizational personnel managing OS-related activities within universities. On the basis of the themes emerging from the data, the researcher broadly divides the barriers to OS progress into two main categories: organizational-related barriers and social institutional-related barriers, which comprise a number of detailed elements. This study empirically explores such a wide range of impeding factors and develops a comprehensive conceptual framework analyzing the barriers to progressing OS in higher education institutions.

The researcher argues that some of the barriers identified by the previous sustainability literature may not be appropriate for OS progress in the context of English public universities. For example, the prior sustainability literature considers that a lack of sustainability policies, committees, working groups and offices acts as a barrier (Avila et al., 2019; Avila et al., 2017), but the participants in this research did not identify these barriers. This may be partly due to the fact that those previous studies are not English public universities specific; many sample universities in this context have already developed these structures. This finding implies that sufficient attention has to be paid from a contextual perspective in sustainability theory development. However, one would argue that, even if universities adopted these measures, they do not seem to be sufficient or effective to make substantive progress to sustainability and lead to systemic changes, without deeply understanding the complex rationales and the main barriers discussed above and addressing them in a fundamental radical way. In addition, the researcher adds new factors such as the impact of the COVID-19 pandemic in the discussion of the barriers. The findings of this research show the unprecedented negative impacts of the COVID-19 pandemic on English universities' OS (e.g. further reduction in funding for OS and new sustainability challenges). These emerging factors have not been deeply addressed by the existing sustainability literature in the context of higher educational institutions.

5.4.2 Contributions to and recommendations for practice

With regard to contributions to practice, it is pivotal for university senior executives, sustainability-related managers and professionals, student and staff sustainability advocates, lawmakers and government departments, and other related stakeholders (e.g. activist groups, professional bodies, media and the general public) to deeply comprehend the multiplicity and complexity of organizational OS engagement rationales. The results of this study may be useful in guiding the operational sustainability of organizations (particularly universities) in the right strategic directions by emphasizing the long-term social and environmental moral responsibilities and limiting short-term organizational pragmatic self-interest. In some cases, an organization has to put sustainability above organizational self-interest. It is also necessary to develop a comprehensive understanding of various internal and external barriers to OS progress, because it enables higher education institutions, other public sector organizations, companies and the aforementioned stakeholders to anticipate such obstacles and make well-informed decisions.

Moreover, this research has important implications for universities, senior management, OS-related managers/practitioners, government authorities and other stakeholder groups, as it synthesizes the research findings and proposes a number of approaches that are likely to progress OS. While the researcher noted how these approaches could be used to overcome the identified barriers, the strategies proposed in this study are not prescriptive to each of the barriers; rather, they are considered as the general strategies which should be adopted together to address overall problems. Drawing upon insights gained from researching the issues of 'rationales' and 'barriers', the researcher makes the following general suggestions for practice and policy:

5.4.2.1 The general suggestions for universities and various stakeholders involved

5.4.2.1.1 Emphasizing long-term wider social and environmental impacts and making OS a strategic priority

From the internal organizational perspective, the findings of the current study reveal that, in the process of engagement, universities may sometimes make compromises when they face the conflicts/tensions between instrumental motivations for seeking pragmatic organizational self-interest and moral responsibility for making substantive changes towards sustainability. Respondents viewed that universities' focus on project short-term economic returns hampered the OS development in the long run. To tackle this problem, universities need to think deeply and even radically with a view to shifting their focus from short-term narrow financial returns to long-term broad social and environmental aspects of sustainability which may not have direct economic benefits for the organizations. This change of focus is an essential part of strategic and systemic transformation.

It is important to note that such refocus on long-term, wider social and environmental impacts requires a substantial change of universities' strategic priorities. However, as discussed previously, the low priority of sustainability within organizations is considered a key barrier. Therefore, a related strategic change is to make OS a core priority. And such whole-institution priority changes should be led by universities' governing bodies and senior management. Meanwhile, student and staff dialogue and engagement should play a vital role in such a strategic change process.

5.4.2.1.2 Strengthening support from senior management

This study unveils that there is a need to increase university top executives' commitment to OS. In order to facilitate sustainability leadership, universities should develop the formal management structure responsible for the consistent development of OS, with emphasis on managers at the department, school and top levels. Particularly, senior managers should strongly advocate and proactively lead the strategic direction for 'whole institution' sustainability changes, and it is crucial to establish systematic and rigorous university senior management accountability mechanisms for OS which are suitable for specific organizations. The President/Vice-Chancellor, in particular, should ideally be held directly responsible, since this appears to be the most influential role for bringing about fundamental sustainability change. Top executives must take direct responsibility for organizational OS performance and advancement with appropriate senior management OS-related accountability measures in place.

5.4.2.1.3 Ensuring sufficient dedicated organizational financial and human resources for OS

This research shows that it is difficult for universities to push OS forward without adequate financial and human resources. Specifically, organizations need to ensure sufficient dedicated funding for the relevant tasks, especially for the implementation of sustainability strategies. Ensuring sufficient human resources, especially dedicated sustainability staff, is also critical. Otherwise, the university is unlikely to accomplish systemic transformation (which are much more than the minimum compliance) and tackle a broad range of social and environmental challenges in the long run. Essentially, greater efforts are needed to ensure senior management commitment to funding and staff resource allocation. In addition to the availability of financial and human resources, participants pointed out the specific areas of OS which especially needed more resources: procurement, buildings, energy, water and transport, etc.

5.4.2.1.4 Tying OS to all organizational members' work responsibilities and performance assessments

Moreover, tying OS to all organizational members' formal work responsibilities and performance evaluation may be one possible way to tackle the problem of lack of time and involvement of other organizational members and improve the effectiveness of the implementation of university-wide sustainability strategies. The relevant objectives and criteria could be integrated into everyone's job descriptions, work responsibilities and performance reviews. It is suggested that incentive structures within universities, at both individual level and divisional level, need to be adjusted to emphasize OS efforts.

5.4.2.1.5 Increasing adequate legal and governmental pressure on universities

This study may also have some implications for legislators and government authorities in relation to English universities' OS activities. In the context of universities, government coercive influence is seen as one of the key driving forces to OS-related changes. The findings and analysis indicate that the coercive legal and governmental pressures on universities to engage in certain OS areas (e.g. carbon reduction and energy saving) used to be strong, but they have become weaker in recent years. Therefore, there is a great need for central government, sector regulator (OfS) and local government to increase legal and governmental pressure on universities to progress OS.

The government should establish tougher regulations and more rigorous policies, develop and implement more effective performance monitoring and enforcement systems, and tie reward (such as funding or tax incentive) and punishment (such as financial penalty and legal action) more closely to universities' performance. This study reveals that government requirements and demands in respect of OS should be mandatory rather than voluntary. Otherwise, organizations may be reluctant to fully commit to OS. In addition, government authorities should increase funding for sustainability initiatives and hold long-term views on sustainability investments.

There is also a need for the government to deeply engage with diverse stakeholders, truly understand their expectations and broaden the scope of its influence.

5.4.2.1.6 Strengthening collaboration among external stakeholders

The research shows that there are varied and insufficient pressures from students, students' unions, activist groups and professional associations. As these individual campaigning organizations have limited financial, human and political resources and influences, by taking collective actions and combining their resources, they may exert stronger pressures on universities to do the right thing and push sustainability to the top of their agendas. Further developing various stakeholders' partnerships could facilitate the understanding of diverse views about OS and the promotion of a shared vision. Hence, it is suggested that external stakeholders should substantially improve communication with one another and join forces. With the strengthened and concerted institutional influences, universities would be more accountable for their social and environmental impacts and make serious long-term commitments to OS.

5.4.2.1.7 Using COVID-19 positive impacts as opportunities for making substantive sustainability changes

As well as challenges, the recent COVID 19 pandemic has also presented some opportunities which could help universities to engage in the substantive transformation towards OS. For instance, COVID-19 has accelerated trends such as mixed-mode working and blended learning (both online and face-to-face). The pandemic and associated social distancing rules have significantly limited face-to-face activities and travel. In and around university campuses, working from home and online education have risen while on-campus learning and public gatherings have dropped. Remote working and studying, facilitated by the advancement of digital and online technologies, are likely to result in a considerable reduction in transport and travel. The decrease in traffic has also substantially reduced congestion, noise pollution, air pollution and greenhouse gas emissions.

The adoption of these emerging and important approaches is likely to improve campus space management and decrease travel, which will in turn significantly reduce environmental impacts. Universities need to rethink their existing space utilization and building expansion strategies and get ready for more radical strategic changes. If universities could make working from home and online learning essential parts of organizational operations in the long run, campus space utilization could be maximized. The mixed-mode working and studying, along with other COVID-19 influences, could slow down new building expansion, and even change how universities traditionally operate, potentially leading to transformative and sustained changes towards sustainability. Therefore, this research suggests that it is imperative for all relevant stakeholders, including government authorities and universities, to work together to discuss how to use COVID-19 positive impacts as opportunities for making universities more sustainable in the post-pandemic period.

Holding the Vice-Chancellor directly accountable for OS, strengthening active and effective student and staff representation in sustainability strategic decision-making committees, integrating OS into all organizational members' formal work responsibilities and performance evaluation, and changing traditional university incentive structures at both individual and divisional levels to emphasize OS may enhance the procedural and structural (moral) legitimacy. Furthermore, systemic organizational transformation towards OS requires top-down and bottom-up approaches. A paradigm change is needed in the way universities traditionally operate. Hunting and Tilbury (2006) encourage organizations, including universities, to rethink their ways of engaging with stakeholders. Many organizations still consider stakeholder engagement as a technique to collect information/intelligence and reduce risks. However, the interests and demands of constituents should be regarded as constructive inputs to driving more informed OS changes. Through continuous critical reflections as a group, universities and relevant stakeholders need to employ more systemic strategic thinking by recognizing and acknowledging their own limitations and biases. “Traditional modes of practice, teaching and research are no longer enough; society is demanding alignment with societal challenges” (Waheed, 2017c, p. 2). Both the government and universities need to shift the emphasis to disrupting ‘business as usual’, making the whole system change towards sustainability; “a movement away from the primacy of neoliberalism” (Bessant et al., 2015, p. 423).

In practice, the continuous growth in physical campus estates in many universities seems unsustainable. The growth in English public universities’ operations needs a change of strategic direction. For instance, instead of the increase in constructing new buildings in and around campuses, universities may shift their direction of growth by focusing on the significant enhancement and enrichment of their online education and research, decreasing students’ learning costs, and benefiting students/communities from different parts of the world (especially deprived areas and developing countries where there is a shortage of high-quality educational opportunities), while reducing their operational impact on the environment. As a summary, the proposed general approaches to OS advancement are shown in the table below.

Table 5.4 Summary of the suggested general approaches to OS progress

Main themes	**Sub-themes**
Emphasizing long-term wider social and environmental sustainability and making OS a strategic priority	● Emphasizing long-term broader social and environmental sustainability rather than short-term financial benefits for the organization ● Making OS a strategic priority
Strengthening support from senior management	● Creating the effective, formal management structure responsible for the development of campus operational sustainability, with emphasis

	on managers at different levels ● Holding the President/Vice-Chancellor directly accountable
Ensuring sufficient dedicated financial and human resources for OS	● Allocating sufficient dedicated financial resources ● Preparing sufficient dedicated human resources
Tying OS to all organizational members' work responsibilities and performance assessments	● Integrating OS into all organizational members' formal work responsibilities and performance evaluation ● Changing traditional university incentive structures at both individual and divisional levels to emphasize OS
Increasing legal and governmental pressure on universities to make OS progress	● Toughening up government regulations and enforcement ● Making mandatory government requirements in broader aspects of OS and broaden the scope of government influence ● Increasing government funding for sustainability initiatives and holding long-term views on sustainability investments
Improving university-external stakeholder collaboration and collaboration among external stakeholders	● Improving university-external stakeholder partnership and collaborating with other peer universities ● Developing the shared visions and collaboration

	among diverse external stakeholders
Using COVID-19 positive impacts as opportunities for making substantive changes towards OS	• Taking advantage of the accelerated trends of mixed-mode working and blended learning • Using COVID-19 positive impacts to improve and sustain campus space efficiency, slow down new building expansions and reduce travel - leading to substantive changes

5.4.2.2 Practical implications for managers in higher education institutions

In addition to the general approaches discussed above, this study also proposes a number of suggestions for improving managerial practices in universities' OS. While the above-mentioned fundamental approaches are for a range of internal and external stakeholders, the following specific, practical strategies are mainly for sustainability-related managers in higher education institutions.

5.4.2.2.1 Broadening and deepening stakeholder engagement and trans-disciplinary collaboration

Universities are unlikely to make substantive sustainability changes if stakeholders are not fully engaged. While some universities carried out limited engagement activities, it is necessary to deepen and broaden stakeholder engagement in the university community at all levels. Stakeholders should be included in all stages of the sustainability integration process. In order to overcome barriers such as the lack of awareness, interest and knowledge among different organizational members and the lack of time and involvement of non-sustainability staff and students, a variety of engagement actions could be taken. These involve active and effective student and staff representation in sustainability strategic decision-making committees, the appointment of engagement officers, developing a full range of communication channels and promoting different engagement events and campaigns, etc.

To further improve stakeholder engagement, it is of crucial importance for universities to broaden and deepen trans-disciplinary collaboration among academics, students, supporting staff and other relevant parties. Inter-disciplinary collaboration could reduce the perceived disconnections between academic and operational departments and change silo mentality. It is strongly recommended that people from all fields offer their knowledge.

Among various trans-disciplinary engagements, particularly, Living Labs is recognized as a way of facilitating collaboration[17]. In taking part in a sustainability Living Lab project, faculty members are involved through their educational or research duties; students are engaged by undertaking their studies, theses, formal volunteering, internships, summer/winter schools or other structured extracurricular activities; professional personnel participate as part of their job obligations by providing real-life campus operational problems/cases to academics and students. The boundaries among the traditionally separated practices of teaching, research and campus operations may be dissolved by engaging in Living Lab programmes. Participation in such initiatives is also likely to link the siloed constituents in and around the university community. Combined, the multidisciplinary stakeholder dialogue, engagement and collaboration may strengthen the whole institutional sustainability strategies.

5.4.2.2.2 Reinforcing 'whole institution' systematic awareness-raising and knowledge training at a deep level

[17] In the context of universities, "The Living Lab initiative hosts projects where participants from all stakeholder groups collectively address real-life sustainability challenges." (Waheed, 2017a, p. 4).

To increase all organizational members' interest in and understanding of OS, university-wide, systematic awareness-raising and knowledge training should be undertaken deeply and consistently. Rigorous knowledge training should be conducted systematically at the senior management, sustainability leads and general levels. For instance, the awareness and knowledge enhancement activities should include leadership training courses for management and champions, sustainability learning during the inductions and promoting communication with various channels, etc. The university-wide awareness promotion and knowledge training should aim to change people's attitudes, behaviours and organizational culture. It is impossible to quickly achieve fundamental behavioral and cultural changes, so the organization has to develop long-term plans, reinforced by mid-term and short-term milestones.

5.4.2.2.3 Implementing effective monitoring and evaluation with regard to OS

Although some universities introduced management systems like ISO14001, the effective implementation of appropriate mechanisms for holistically monitoring, assessing and controlling the performance of OS activities is lacking. Effective monitoring and evaluation involve regular environmental and social impact audits of the whole university's campus operations. The audits should have clear qualitative and quantitative indicators. The comprehensive environmental and social impact audits should be carried out at least every five years. The audits should be related to holistic sustainability; audits only focus on a part of the OS (e.g. waste recycling or water) are not enough. The performance of OS initiatives should be directly tied to the job performance of the relevant organizational personnel, not only at the operational level but also at school and university senior management levels. A number of assessment and management tools are available to the universities; they can also help universities integrate sustainability into the operations and promote a cultural shift:

- Environmental audits and environmental management systems (e.g. ISO, EU EMAS or Ecocampus)—for identifying environmental inefficiencies and impacts from an operation or system;
- Environmental and social impact assessment;
- Life cycle assessment—for identifying 'hot areas' in the life cycle;
- Systematic risk management process.

5.4.2.2.4 Assisting senior executives in formulating and implementing OS management accountability mechanisms

To facilitate sustainability leadership, sustainability-related managers should work with senior managers closely to formulate and implement the formal management structure responsible for the consistent development of OS, with emphasis on managers at the department, school and top levels. Particularly, it is crucial to establish systematic and rigorous university senior management accountability mechanisms for OS which are suitable for specific organizations. Ideally, the President/Vice-Chancellor should be held directly accountable, because it seems to be the most powerful leadership position for delivering sustainability change. With effective senior management OS-related accountability systems in place, top executives must take direct responsibility for organizational OS performance and progress.

5.4.2.2.5 Supporting senior executives to ensure sufficient dedicated organizational financial and human resources for OS

Sustainability-related managers should work closely with senior management to ensure sufficient dedicated funding and manpower for the relevant tasks, especially for the implementation of sustainability strategies. Without adequate financial and human resources, the university is not likely to achieve systemic OS changes. For financial resources, sustainability-related managers need to prepare the detailed budgets, in short, middle and long-term, for OS programmes and discuss with senior managers and gain their formal approval. And both senior managers and sustainability-related managers should monitor the execution of OS budgets closely. For human resources, under the leadership of top management, sustainability-related managers need to design the whole-institution OS human resource strategies (e.g. mobilizing senior executives, academics, professional service staff and students for different OS programmes) and implement them effectively.

5.4.2.2.6 Strengthening university-external stakeholder collaboration

There is a recommendation that sector-wide and even cross-sector collaboration have key roles in progressing the OS agenda. Many relevant issues are inter-connected with the activities of various constituents outside the campus. It is suggested that universities should collaborate with other peer universities and external stakeholder groups to exchange information, learn from each other and seek out new opportunities. When organizations within or across sectors work together, they may be able to achieve more. Through openness, transparency and cooperation, trust can be built among universities, NGOs and local communities, resulting in fewer complaints and a higher possibility of collaboration.

5.4.2.2.7 Emphasizing social aspects of university's OS and making further improvements in environmental OS.

This research revealed that many English public universities emphasized their campus environmental management, but sufficient attention had not been paid to social issues in connection with their operations (e.g. ethical banking and investments, workers' rights for staff employed by outsourced contractors and across its global supply chain and living wages for all employees on campus). A number of universities are not fully aware of the importance of sustainability in tackling problems like social and economic inequalities in and around the organization. Therefore, the existing OS practices in universities are not inclusive and holistic. These observations are in line with the extant sustainability literature in the field of higher education institutions (Avila et al., 2017; Waas et al., 2010, 2012).

If the institution has investments, it should disclose all of them every year (at the very least, indicating what percentage of the fund is invested in which industries). In the meanwhile, the university should reinvest in low-carbon / renewable energy firms or funds. In terms of ethical banking, the university should only do business with banks that have an active policy of excluding funding fossil fuel corporations and projects. On its investment committee or finance committee, the university should include effective student representation; student observation roles in committees are not sufficient. With regard to workers' rights, universities should promote living wages for all employees and guarantee that outsourced contracts are based on providing adequate wages, conditions and pensions that are regularly checked. Universities should also ensure workers' rights for those working for their suppliers are well protected. Workers' rights are incorporated into contracts and proper monitoring in collaboration with civil society organizations on the ground is resourced, in order to improve their supply chains. OS-related managers need to put more emphasis on the social issues mentioned above and promote holistic sustainability in the whole university and throughout its global supply chain.

While all English public universities supported the UK government's 'zero carbon' targets, two-thirds of universities were not on track to meet the carbon emission reduction targets (Lightfoot, 2019). Many universities still used the less substantive/meaningful relative carbon reduction targets (compared against organizational growth), this must be changed. Instead, universities should concentrate on absolute carbon reduction. Furthermore, very few universities seriously took into consideration reducing the scope 3 carbon emissions. The university needs to calculate scope 3 emissions and attribute scope 3 emissions to university operations. The carbon management plan should contain a baseline for scope 3 emissions and reduction targets. This study indicated that some universities may adopt substantive approaches to improve the energy efficiency of their buildings. However, in other areas of OS, the substantive actions were limited and insufficient.

In some instances, universities did not seem to put in significant efforts to tackle problems associated with sustainable procurement throughout their supply chain, because these supply chain problems are difficult and outside universities' direct control. Tender specifications with external partners should be covered by the university's sustainable procurement policy. The accomplishment of an externally validated sustainable food accreditation, such as the Soil Association's Food for Life Served Here award, or the Food Made Good Membership by the Sustainable Restaurant Association, is a common way to promote sustainable catering. Therefore, more substantial efforts are required to make progress in the following environmental aspects of OS: carbon emission reduction and sustainable procurement, etc. To summarize, the proposed practical strategies of advancing OS managerial practices are shown in the table below.

Table 5.5 Summary of the suggested practical strategies to improve OS managerial practices

Main themes	**Sub- themes**
Broadening and deepening stakeholder engagement campaigns and trans-disciplinary collaboration	• Strengthening stakeholder engagement throughout the university and at all levels • Broadening and deepening trans-disciplinary collaboration among academics, students, service staff and other relevant parties through initiatives like Living Labs

Reinforcing whole institution awareness raising and knowledge training at a deep level	● Reinforcing university-wide awareness-raising at a deeper level ● Reinforcing systematic knowledge training consistently
Implementing effective monitoring and evaluation with regard to OS	● Regular environmental and social impact audits of the whole university's campus operations ● The performance of OS initiatives should be directly tied to the job performance of organizational personnel, not only at operational level, but also at school and university top management levels ● Using assessment and management tools to integrate sustainability into the operations
Assisting senior executives in formulating and implementing OS management accountability mechanisms	● Formulating and implementing the formal management structure responsible for the consistent development of OS, with emphasis on managers at the department, school and top levels ● Ideally, the President/Vice-Chancellor should be held directly accountable
Supporting senior executives to ensure	● Preparing the detailed budgets, in

sufficient dedicated organizational financial and human resources for OS	short, middle and long-term, for OS programmes, gaining senior managers' formal approval, and monitoring the execution of OS budgets closely ● Designing the whole-institution OS human resource strategies and implementing them effectively
Strengthening university-external stakeholder collaboration	● Collaborating with other universities and external stakeholders to exchange information, learn from each other, seek out new opportunities and build trust
Emphasizing social aspects of university's OS and making further improvements in environmental OS	● Emphasizing the social issues (e.g., ethical banking and investments, living wages for all employees on campus and workers rights across its global supply chain) and promoting holistic sustainability ● Make progress in environmental aspects of OS: carbon emission reduction and sustainable procurement, etc.

Additionally, Blanco-Portela et al. (2017) note that, in spite of the differences among entities, higher education institutions and companies face some similar issues in respect of rationales, barriers and approaches concerning sustainability. Some insights gained from the OS engagement of higher education institutions may be applied to other organizations in the public, private and third sectors, particularly big and complex organizations offering professional/social services to the public.

5.5 Research limitations

This study has some limitations, as every piece of research does. Owing to the exploratory nature of this study and because the data are based on in-depth qualitative interviews with participants from 20 English universities and over 800 documents from a large number of universities and relevant stakeholders, the results are not generalizable outside the specific research context. Although this study has examined OS activities in a wide range of English universities, the researcher cannot claim that the sample is representative of all public universities in England. Nevertheless, interpretivist qualitative studies provide thick description, broad and varied evidence, and detailed research findings so that readers can relate the information to their own decision-making (Bryman, 2016; Bassey, 1981).

Moreover, this study mainly focuses on the perceptions and experiences of key organizational personnel, within the universities, directly managing OS activities. In addition, this research has collected and analyzed a great number of documents produced by students, activist groups, students' unions, academics, legislators, government authorities, professional associations and media, etc., in order to examine the research issues from different perspectives. For the purpose of developing a deeper and broader understanding of such activities, it could be helpful to seek the views of other internal stakeholders and external stakeholders about the same issues by conducting in-depth interviews with them directly.

5.6 Suggestions for future research

This research has offered empirical insights into the rationales for and barriers to OS in the English public universities. It is suggested that future studies could investigate these issues in wider contexts, such as the whole UK higher education sector, by considering the various political, regulatory, cultural and historical backgrounds of the four devolved regions. Furthermore, in future studies, researchers could extend this exploration to higher education institutions in other developed and developing countries, and even other types of organizations like public sector organizations, not-for-profit organizations and private companies.

Another opportunity stemming from this research is that further studies could be undertaken to investigate other internal and external stakeholders' perceptions and experiences of the same issues analyzed in this thesis by directly engaging with them. Such future research could offer different perspectives of other constituents who are influencing and being influenced by the universities' engagement of OS. Scholars then could compare and contrast these views with those of managers/practitioners within organizations, resulting in a fuller and richer picture.

Several interesting issues emerged from this research; they also merit further analysis. For instance, the Times Higher Education Impact ranking is a new external performance assessment indicator launched by the traditional 'mainstream' media, which takes account of various aspects of OS as part of key criteria and may be potentially influential to universities in the near future[18]. However, there was very

---

[18] It is interesting to note that, although the criteria of impact rankings are broad (comprising dimensions of 17 United Nations' SDGs), a university's overall score is only determined by four SDG areas rather than the entire 17 areas. As the Times Higher Education explained: "*A university's final score in the overall table is calculated by combining its score in SDG 17 with its top three scores out of the remaining 16 SDGs. SDG 17 accounts for 22 per cent of the overall score, while the other SDGs each carry a weight of 26 per cent. This means that different universities are scored based on a different set of SDGs, depending on their focus*." (Times Higher Education, 2021a). Therefore, one would argue that its ranking methodology for the overall score is limited (could have been more comprehensive). Moreover, in terms of the data collection methods, the rankings rely on participating universities to provide their own data which cannot be externally verified in many areas. And a university has to make its own estimations and interpretations in some areas (Times Higher Education, 2021b). Hence, the data collection could have been more rigorous and accurate.

limited discussion about this ranking by the participants mainly because the Times Higher Education had just published its first ranking (very new) during the time of the interviews. Future work could be undertaken to explore how the Times Higher Education Impact rankings would affect the motivations for universities' OS engagement and influence OS development.

The findings of this research show some aspects of the unprecedented and complex (both negative and positive) impacts of the COVID-19 pandemic on English universities' OS. This global crisis affected almost every aspect of people's activities unexpectedly and profoundly. There is a dearth of research empirically investigating the effects of COVID-19 on OS in this research setting and how universities could mitigate its adverse impacts and take advantage of its positive influences to make sustainability changes. Future studies in this respect may provide some new insights.

Appendices

Appendix 1. Research Participant Invitation and Information Sheet

Dear Title Surname,

I am writing to ask whether you would like to participate in a study project. The aim of this research is to explore the rationales for English public universities to undertake sustainability activities in campus operations and the barriers to making progress in sustainability activities in campus operations. The research is being undertaken as part of my Doctor of Business Administration Degree programme at the University of Northumbria.

Campus operational sustainability activities are concerned with universities' decisions and actions regarding their carbon, energy, waste and recycling, water, travel and transport, construction and refurbishment, biodiversity, sustainable procurement, workers' rights in the global supply chain, fair trade, ethical investment and banking, and equality and diversity, etc.

Your participation in this study is important and valuable. I hope that you would like to undertake an interview with me. Participation in the interview is voluntary. You can withdraw from the research at any time or feel free not to answer any questions. The interview will be semi-structured, open-ended, and there are no right or wrong answers. The time required for it is approximately one hour.

The interviewees' and universities' names shall be kept strictly confidential and anonymous. With your permission, interviews will be recorded and transcribed. Interview data will be stored in a secure place. The information you offer will be used for research purposes only. If you have any concerns, the procedures governed by

Northumbria University research ethics are available at https://www.northumbria.ac.uk/research/ethics-and-governance/

If you are willing to take part, please contact me. Then we will arrange an interview at your convenience. I would be grateful if you could please complete and sign the attached Informed Consent Form and send it back to me. Please also view the attached questions as the interview guide. Thank you very much for your assistance.

Yours sincerely,

Researcher: Hongyi Zhang - Doctor of Business Administration student, Northumbria University
Address: Flat 10, 10 Craigour Green, Edinburgh, EH17 7NQ
E-mail: hongyi.zhang@northumbria.ac.uk
Tel: XXXXXX

Supervisor: Dr Alex Hope BSc (Hons) PhD MA AIEMA MCMI FHEA
Head of Department, Leadership and Human Resource Management
Associate Professor of Business Ethics, Northumbria University
Vice-Chair UK & Ireland UN PRME Chapter
Address: Room 428, City Campus East 1, Northumbria University, Newcastle upon Tyne, NE1 8ST
E-mail: alex.hope@northumbria.ac.uk

Appendix 2. Research Participant Informed Consent Form

Research project: The aim of this research is to explore the rationales for English public universities to engage in sustainability activities in campus operations and the barriers to making progress to sustainability activities in campus operations. The research is being undertaken as part of my Doctor of Business Administration Degree programme at the University of Northumbria. Prior to signing this form, please consider the following:

Your participation in this study is important and valuable. I would like to conduct an interview with you. Participation in the interview is voluntary. You can withdraw from the research at any time or feel free not to answer any questions. The interviews will be open-ended, semi-structured, and there are no right or wrong answers. You have read the participant information sheet, have had the chance to ask questions regarding the research and have had your questions answered satisfactorily.

The interviewees' and universities' names shall be kept strictly confidential and anonymous. With your permission, interviews will be recorded and transcribed. You agree to the interviewer taking notes during the interview. Interview data will be stored in a secure place. The information you offer will be used for research purposes only. If you have any concerns, the procedures governed by Northumbria University research ethics are available at
https://www.northumbria.ac.uk/research/ethics-and-governance/

By signing this form, you confirm that you have read and understood the information provided above and are willing to take part in this research.

Participant's signature Date

Researcher's signature Date

Researcher: Hongyi Zhang - Doctor of Business Administration student, Northumbria University
Address: Flat 10, 10 Craigour Green, Edinburgh, EH17 7NQ

E-mail: hongyi.zhang@northumbria.ac.uk

Tel: XXXXXX

Please retain a copy of this form for your personal records

Appendix 3. Interview Guide

Introduce the research

Discuss all relevant research ethical issues

Sign consent form (if not completed)

Set recorder on

General questions

- How would you describe your role in the university?
- What professional background and experience do you bring to this position?

Main interview questions

1. What do you understand about sustainability?

Sub-question

- What does 'sustainability in a university's campus operations' mean to you?

2. Why do English public universities in general or your university in particular engage in campus operational sustainability activities?

3. When undertaking campus operational sustainability activities, did the university experience any incompatibility or conflict between pursuing practical benefits for the university itself and taking social and environmental duties and responsibilities?

- If yes, how did the incompatibility or conflict affect the university's sustainability activities? If not, why not?

4. In relation to the university's campus operational sustainability, who are the influential external and internal stakeholders and what are their concerns/expectations?

- How do they influence sustainability in the university's campus operations?

5. What, if any, are the barriers hindering the university from engaging in campus operational sustainability activities; why and how do these barriers affect sustainability activities?

6. What areas/issues of campus operational sustainability have been emphasized or actually improved, if any?

- (Where relevant) Are there any areas/issues of campus operational sustainability that you think the university has not addressed/emphasized or is less likely to fully engage in, and why?

7. Does the absence or conflict of external stakeholders' influences have any negative effects on the university's campus operational sustainability or not?

- If yes, why and how? If not, why not?

8. Did the university try to associate itself with (or engage in) sustainability-related rankings, certifications or awards?

- If so, what did the university do and how did it communicate such associations? If not, why not?

End with: Is there anything else you would like to discuss in relation to the research issues?

References

Aaker, D.A. (2008). Marketing in a silo world: The new CMO challenge. *California Management Review*. 51, 144–156.

Adams, C.A. (2013). Sustainability reporting and performance management in universities: Challenges and benefits, *Sustainability Accounting, Management and Policy Journal*, *4(*3). 384-392.

Adams, R., Martin, S., & Boom, K. (2018). University Culture and Sustainability: Designing and Implementing an Enabling Framework. *Journal of Cleaner Production*, 171, 434-445.

Aehlstroem, J., Macquet, M., & Richter, U. (2009). The Lack of a Critical Perspective in Environmental Management Research: Distortion in the Scientific Discourse", *Business Strategy and the Environment,* 18, 334-346.

Aguilera, R.V., Rupp, D.E., Williams C.A., & Ganapathi J. (2007). Putting the S Back in Corporate Social Responsibility: A Multilevel Theory of Social Change in Organizations, *The Academy of Management Review,* 32(3), 836-863.

Aguinis, H., & Glavas, A. (2012). What We Know and Don't Know about Corporate Social Responsibility: A Review and Research Agenda. *Journal of Management*, *38*, 932-968.

Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19, 645-670.

Aleixo, A.M., Leal, S., & Azeiteiro, U.M. (2018). Conceptualization of sustainable higher education institutions, roles, barriers, and challenges for sustainability: An exploratory study in Portugal, *Journal of Cleaner Production. 172.* 1664-1673.

Alotaibi, A., Edum-Fotwe, F.T., & Price, A.D.F. (2019). Critical barriers to social responsibility implementation within mega-construction projects: The case of the Kingdom of Saudi Arabia. *Sustainability*, 11 (6), 1755.

Alshuwaikhat, H. M., & Abubakar, I. (2008). An Integrated Approach to Achieving Campus Sustainability: Assessment of the Current Campus Environmental Management Practices. *Journal of Cleaner Production*, 16, 1777-1785.

Altan, H. (2010) Energy efficiency interventions in UK higher education institutions, *Energy Policy*, 38 (12), 7722-7731.

Alvesson, M. (2003). Beyond Neopositivists, Romantics, and Localists: A Reflexive Approach to Interviews in Organizational Research, *The Academy of Management Review*, 28(1), 13-33.

Alyamani, R., Long, S., & Nurunnabi, M. (2020). Exploring the Relationship between Sustainable Projects and Institutional Isomorphisms: A Project Typology. *Sustainability, 12*, 3668.

Amaeshi, K., Adegbite, E., & Rajwani, T. (2016). Corporate social responsibility in challenging and non-enabling institutional contexts: Do institutional voids matter? *Journal of Business Ethics, 134*(1), 135–153.

An, Y., Davey, H., & Harun, H. (2017). Sustainability Reporting at a New Zealand Public University: A Longitudinal Analysis. *Sustainability*, *9*(9), 1529, 1-11.

Aronowitz, S. (2000). *The Knowledge Factory: Dismantling the Corporate University and Creating True Higher Learning*. Beacon Press, Boston, MA.

Ashforth, B. E., & Gibbs, B. W. (1990). The double-edge of organizational legitimation. *Organization Science*, 1, 177-194.

Aston University. (2019). *Carbon Management Plan.*

Atkinson, P.A., & Coffey, A.J. (2011). *Analysing documentary realities.* In: D. Silverman (ed.) *Qualitative Research (pp. 56-75)*, London: Sage.

Avila, L.V., Leal Filho, W., Brandli, L., Macgregor, C.J., Molthan-Hill, P., Ozuyar, P.G., & Moreira, R.M. (2017). Barriers to innovation and sustainability at universities around the world. *Journal of Cleaner Production, 164,* 1268-1278.

Avila, L. V., Beuron, T.A., Brandli, L.L., Damke, L.I., Pereira, R.S., & Klein, L.L. (2019). Barriers to innovation and sustainability in universities: an international comparison, *International Journal of Sustainability in Higher Education*, 20 (5) 805-821.

Ball, A., Grubnic, S., & Birchall, S.J. (2014). Sustainability accounting and accountability in the public sector. In J. Unerman, J. Bebbington & B. O'Dwyer (Eds.), *Sustainability Accounting and Accountability (2nd Ed.: pp. 176-195)*. London: Routledge.

Banerjee, S. B. (2008). Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology*, 34(1), 51-79.

Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal,* 43, 717-736.

Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management Journal*, 47, 93-103.

Barnes, P. & Jerman, P. (2002). Developing an environmental management system for a multiple university consortium. *Journal of Cleaner Production*, 10(1) 33-39.

Bassey, M. (1981). Pedagogic research: on the relative merits of search for generalisation and study of single events, *Oxford Review of Education*, 7(1) 73-94.

Baum, J. A. C., & Powell, W. W. (1995). Cultivating an institutional ecology of organizations: Comment on Hannan, Carroll, Dundon, and Torres. *American Sociological Review,* 60, 529–538.

Bebbington, J., & Gray, R. (2001). An Account of Sustainability: Failure, Success and a Reconceptualization. *Critical Perspectives on Accounting, 12*, 557-588.

Bebbington, J., Higgins, C., & Frame, B. (2009). Initiating sustainable development reporting: evidence from New Zealand. *Accounting, Auditing & Accountability Journal*, *22*(4), 588-625.

Beckert, J. (2010). Institutional Isomorphism Revisited: Convergence and Divergence in Institutional Change, *Sociological Theory*, 28(2), 150-166.

Beddewela, E., & Fairbrass, J. (2016). Seeking Legitimacy Through CSR: Institutional Pressures and Corporate Responses of Multinationals in Sri Lanka. *Journal of Business Ethics*, *136*(3), 503-522.

Belal, A. R., & Owen, D. L. (2007). The views of corporate managers on the current state of, and future prospects for, social reporting in Bangladesh: an engagement based study. *Accounting, Auditing and Accountability Journal*, 20(3) 472-494.

Bernard, H. R. (2000). *Social research methods: qualitative and quantitative approaches.* London: Sage.

Bero, B.N., Doerry, E., Middleton, R., & Meinhardt, C. (2012). Challenges in the development of environmental management systems on the modern university campus. *International Journal of Sustainability in Higher Education*, 13 (2), 133–149.

Bessant, S.E.F., Robinson, Z.P., & Ormerod, R.M. (2015). Neoliberalism, new public management and the sustainable development agenda of higher education:

history, contradictions and synergies, *Environmental Education Research, 21* (3), 417-432.

Bitektine, A. (2011). Toward a theory of social judgment of organizations: The case of legitimacy, reputation, and status. *Academy of Management Review*, 36, 151-179.

Blanco-Portela, N., Benayas, J., Pertierra, L.R., & Lozano R. (2017). Towards the integration of sustainability in Higher Education Institutions: a review of drivers of and barriers to organisational change and their comparison against those found of companies*, Journal of Cleaner Production*, *166,* 563-578.

Blanco-Portela, N., R-Pertierra, L., Benayas, J., & Lozano, R. (2018). Sustainability Leaders' Perceptions on the Drivers for and the Barriers to the Integration of Sustainability in Latin American Higher Education Institutions. *Sustainability, 10*, 2954.

Bleiklie, I. (2018). *New Public Management or Neoliberalism, Higher Education*. In book: Encyclopedia of International Higher Education Systems and Institutions, pp.1-6.

Bolton, P. & Hubble, S. (2020). *Coronavirus: Financial impact on higher education* House of Commons research brief, Number 8954.

Borgstedt, P., Nienaber, A., Liesenkötter, B., & Schewe, G. (2019). Legitimacy strategies in corporate environmental reporting: A longitudinal analysis of German DAX companies' disclosed objectives, *Journal of Business Ethics, 158*(1), 177-200.

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40.

Brammer, S., & Millington, A. (2005). Corporate reputation and philanthropy: an empirical analysis. *Journal of Business Ethics*, *61*(1), 29-44.

Brandli, L.L., Leal Filho, W., Frandoloso, M.A.L., Korf, E.P., & Daris, D. (2015). The Environmental Sustainability of Brazilian Universities: Barriers and Pre-conditions. In Leal Filho, W. et al. (Eds.), *Integrating Sustainability Thinking in Science and Engineering Curricula* (pp. 63- 74). Berlin: Springer International Publishing.

Brite Green. (2016). *Carbon management in the higher education sector: A guide to good practice.*

Brooks, J. & King, N. (2014). *Doing Template Analysis: Evaluating an End of Life Care Service*. Sage Research Methods Cases.

Brown, A. D. (1998). Narrative, politics and legitimacy in an IT implementation. *Journal of Management Studies*, 35, 35-58.

Brown, N., & Deegan, C. (1998). The public disclosure of environmental performance information - a dual test of media agenda setting theory and legitimacy theory, *Accounting and Business Research*, 1, 21-41.

Brunsson, N. (1989). *The organization of hypocrisy. Talk, decisions and actions in organizations*. Chichester: John Wiley & Sons.

Brunsson, N. (1990). Deciding for responsibility and legitimation: Alternative interpretations of organizational decision-making. *Accounting, Organizations and Society*, 15(1/2), 47–59.

Brunsson, N. (1993). Ideas and actions: Justifification and hypocrisy as alternatives to control. *Accounting, Organizations and Society*, 18(6), 489–506.

Brunsson, N. (2002). *The organization of hypocrisy*. Oslo: Abstrakt Liber Copenhagen Business School Press. Second edition with a new introduction.

Brunsson, N. (2007). *The consequences of decision-making*. Oxford: Oxford University Press.

Bryman, A. (2012). *Social Research Methods*. Oxford University Press, 4th edition

Bryman, A. (2016). *Social Research Methods*. Oxford University Press, 5th edition

Bryman, A., & Teevan, J.J. (2004). *Social research methods (Vol. 2)*. Oxford: Oxford university press.

Bryman, A., Becker, S., & Sempik, J. (2008). Quality Criteria for Quantitative, Qualitative and Mixed Methods Research: The View from Social Policy, *International Journal of Social Research Methodology*, 11, 261–76.

Burnham, P., Lutz, K. G., Grant, W.Z., & Layton-Henry, Z. (2008). *Research Methods in Politics* 2nd Ed., Hampshire: Palgrave McMillan

Burrell, G. & Morgan, G. (1979). *Sociological paradigms and organizational analysis.* Farnham, Surrey: Ashgate.

Cagno, E., Worrell, E., Trianni, A., & Pugliese, G. (2013). A novel approach for barriers to industrial energy efficiency, *Renewable and Sustainable Energy Reviews,* 19, 290-308.

Campbell, J.L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review,* 32 (3), 946-967.

Carpenter, V.L. & Feroz, E.H. (2001). Institutional Theory and Accounting Rule Choice: An Analysis of Four US State Governments' Decisions to Adopt Generally Accepted Accounting Principles. *Accounting, Organizations and Society* 26 (7): 565-596.

Carroll, A.B., & Shabana, K.M. (2010). The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews, 12 (1),* 85-105.

Castelló, I., Etter, M., & Årup Nielsen, F. (2016). Strategies of Legitimacy Through Social Media: The Networked Strategy. *Journal of Management Studies*, 53, 402-432.

Certo, S. T. (2003). Influencing initial public offering investors with prestige: Signaling with board structures. *Academy of Management Review*, 28, 432–446.

Ceulemans, K., Van Caillie, D., Molderez, I., & Van Liedekerke, D. (2014). A Management Control Perspective of Sustainability Reporting in Higher Education: In Search of a Holistic View, *ACRN Journal of Entrepreneurship Perspectives*, *3* (1), 1–17.

Ceulemans, K., Lozano, R., & Alonso-Almeida, M.M. (2015). Sustainability Reporting in Higher Education: Interconnecting the Reporting Process and Organisational Change Management for Sustainability. *Sustainability*, *7*, 8881-8903.

Chang, H. & Deegan, C. (2010). Exploring factors influencing environmental management accounting adoption at RMIT university, *Sixth Asia Pacific Interdisciplinary Research in Accounting (APIRA) conference*, Sydney.

Charity, I. (2010). *PhD and professional doctorate: higher degrees of separation?* Doctoral thesis, Northumbria University.

Chartered Institute of Procurement and Supply (2021). accessed in December 2021. https://www.cips.org/knowledge/procurement-topics-and-skills/sustainability/

Cho, C.H. (2009). Legitimation Strategies Used in Response to Environmental Disaster: A French Case Study of Total SA's *Erika* and AZF Incidents, *European Accounting Review*, 18(1), 33-62.

Cho, C.H., Laine, M., Roberts, R.W. and Rodrigue, M. (2015). Organized Hypocrisy, Organizational Façades, and Sustainability Reporting. *Accounting, Organizations and Society*, 40(1), 78-94.

Choi, Y. R., & Shepherd, D. A. (2005). Stakeholder perceptions of age and other dimensions of newness. *Journal of Management*, 31, 573-596.

Clark, B.R. (1960). The Open Door College: A Case Study, New York: McGraw-Hill.

Clark, B.R. (1972). The organizational saga in higher education, *Administrative Science Quarterly* 17 (2) 178–184.

Clemens, E. S. & Cook, J. M. (1999). Politics and Institutionalism: Explaining Durability and Change. *Annual Review of Sociology,* 25, 441–466.

Committee on Climate Change. (2019). *Carbon budgets: how we monitor emissions targets*, accessed on the 31st of December, 2020 https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/carbon-budgets-and-targets/

Cortese, A.D. (1999). *Education for Sustainability: The university as a model of sustainability*. Second Nature.

Cortese, A.D. (2003). The critical role of higher education in creating a sustainable future. *Planning for Higher Education* 31 (3), 15–22.

Crane, A., Palazzo, G., Spence, L.J., & Matten, D. (2015). Contesting the value of creating shared value. *California Management Review.* 56 (2), 130-153.

Creighton, S. H. (1999). *Greening the Ivory Tower. Improving the Environmental Track Record of Universities, Colleges, and Other Institutions*. Cambridge: MIT Press.

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (3rd ed.)*. Thousand Oaks, CA: Sage Publications.

Croney, P. (2016). *Undergraduate student expectations of role requirements and pedagogic relationships in a business school:a psychological contract approach.* Doctoral thesis, Northumbria University.

Crossley, R. M., Elmagrhi, M. H. & Ntim, C. G. (2021). Sustainability and legitimacy theory: The case of sustainable social and environmental practices of small and medium-sized enterprises, *Business Strategy and the Environment, 30(8),* 3740-3762

Dagiliut, R., & Liobikiene, G. (2015). University contributions to environmental sustainability: Challenges and opportunities from the Lithuanian case. *Journal of Cleaner Production*, 108, 891–899.

Dahle, M., & Neumayer, E. (2001). Overcoming barriers to campus greening: a survey among higher educational institutions in London, UK. *International Journal of Sustainability in Higher Education*, 2 (2), 139-60.

Daly, H. E., & Cobb, J. B. Jr. (1994). *For the Common Good : Redirecting the Economy Toward Community, the Environment, and a Sustainable Future.* Boston, MA, Beacon Press.

de Waal, A., Weaver, M., Day, T., & van der Heijden, B. (2019). Silo-busting: overcoming the greatest threat to organizational performance. *Sustainability*, 11(23), 6860.

Deakin, S., & Whittaker, D.H. (2007). Re-embedding the corporation? Comparative perspectives on corporate governance, employment relations and corporate social responsibility. *Corporate Governance: An International Review*, 15(1) 1-4.

Deegan, C. (2002). The Legitimizing effect of Social and Environmental Disclosures: A Theoretical Foundation*, Accounting, Auditing & Accountability Journal, 15 (3)* 282–311.

Deegan, C. (2009). *Financial Accounting Theory, 3rd ed.,* McGraw Hill, Sydney.

Deegan, C. (2014). An overview of legitimacy theory as applied within the social and environmental accounting literature in J. Unerman, J. Bebbington, & B. O'Dwyer (ed.) *Sustainability Accounting and Accountability* (pp. 248-272). Routledge, New York, United States.

Deegan, C., & Soltys, S. (2007). Social accounting research: An Australasian perspective. *Accounting Forum*, 31, 73–89.

Deephouse, D. L. (1996). Does isomorphism legitimate? *Academy of Management Journal*, 39, 1024-1039.

Deephouse, D. L., & Suchman, M. C. (2008). Legitimacy in Organizational Institutionalism, in R. Greenwood, C. Oliver, K. Sahlin & R. Suddaby (eds) *The Sage Handbook of Organizational Institutionalism,* (pp. 49–77). Thousand Oaks, CA: Sage

Deephouse, D. L., Bundy, J., Tost, L.P., & Suchman, M. C. (2017). Organizational Legitimacy: Six Key Questions. In: R. Greenwood, C. Oliver, T. Lawrence, & R. Meyer (eds.). *The SAGE Handbook of Organizational Institutionalism*. 2nd ed. (pp. 28-54). Thousand Oaks CA: Sage.

Denman, B.D. (2005). Review of 'Internationalising higher education: Critical explorations of pedagogy and policy'. Australian Journal of Education, 49(2), 228-230.

Denzin, N. K. (1994). The art and politics of interpretation. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 500–515). Sage Publications, Inc.

Department for Business, Energy and Industrial Strategy. (2016). *Building energy efficiency survey, 2014–15: overarching report.*

Devaney, M., & Weber, W. (2003). Abandoning the Public Good: How Universities Have Helped Privatize Higher Education. *Journal of Academic Ethics* 1, 175–179.

Diamond, M.A., & Allcorn, S. (2009). *Private Selves in Public Organizations-The Psychodynamics of Organizational Diagnosis and Change*; Palgrave Macmillan: New York, NY, USA.

DiMaggio, P.J. & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147-60.

DiMaggio, P.J., & Powell, W.W. (1991). Introduction. In W. W. Powell & P. J. DiMaggio (Eds.), *The new institutionalism in organizational analysis (pp. 1-40).* Chicago: University of Chicago Press.

Dobson, A., Quilley, S., & Young, W. (2010). Sustainability as competitive advantage in higher education in the UK. *International Journal of Environment and Sustainable Development*, 9 (4) 330-348.

Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18, 122-136.

Dyball, M. (2010). Sustainability in an Australian university: staff perceptions. *Proceedings of The Sixth Asia Pacific Interdisciplinary Research in Accounting (APIRA) Conference*. Australia: University of Sydney.

Easterby-Smith, M., Thorpe, R., & Lowe,A. (2002). *Management Research: An Introduction (2nd edition),* London , Sage Publication.

Elliott, H., & Wright, T. (2013). *Barriers to sustainable universities and ways forward: a Canadian students' perspective*. The 3rd World Sustainability Forum.

Ellram, L.M., & Golicic, S.L. (2016). The role of legitimacy in pursuing environmentally responsible transportation practices, *Journal of Cleaner Production*, 139, 597-611.

Elsbach, K. D. (1994). Managing organizational legitimacy in the California cattle industry: The construction and effectiveness of verbal accounts. *Administrative Science Quarterly, 39*(1), 57–88.

Elton, L. (2003). Dissemination of innovations in higher education: a change theory approach. *Tertiary Education and Management.* 9, 199–214.

Engert, S., Rauter, R., & Baumgartner, R.J. (2016). Exploring the integration of corporate sustainability into strategic management: a literature review*, Journal of cleaner production*, 112 (4) 2833-2850.

Environmental Association for Universities and Colleges (EAUC). (2017). *Consultation response on "Leading by example: cutting energy bills and carbon emissions in the public and higher education sectors"* .

Environmental Association for Universities and Colleges (EAUC). (2018). *Sustainability: Key to Long-term Institutional Success A Guide for Members of Governing Bodies.*

Environmental Association for Universities and Colleges (EAUC) (2019a). accessed on the 31st of December, 2020 https://www.eauc.org.uk/

Environmental Association for Universities and Colleges (EAUC). (2019b). *Consultation response on "How has the Government been at engaging stakeholders in the voluntary national review process, in particular people in vulnerable groups".*

Environmental Association for Universities and Colleges EAUC. (2019c). *Making the business case for sustainability.*

Environmental Association for Universities and Colleges (EAUC) (2019d). accessed on the 31st of December, 2020 https://www.eauc.org.uk/communities_of_practice

Environmental Association for Universities and Colleges (EAUC). (2019e). *Sustainability and marketing Teams*

Environmental Association for Universities and Colleges (EAUC). (2019f). *Sustainability and Human Resources Teams*

Environmental Association for Universities and Colleges (EAUCi). (2019g). *Sustainability and Information Technology Teams*

Environmental Association for Universities and Colleges (EAUC). (2019h). *University and college leaders must wake up to the demands of students on climate action,* accessed on the 31st of December, 2020 https://www.eauc.org.uk/university_and_college_leaders_must_wake_up_to_

Environmental Association for Universities and Colleges (EAUC). (2021). Accessed on the 11st of August, 2021. https://www.eauc.org.uk/

Environmental Association for Universities and Colleges, the Higher Education Business Continuity Network & AECOM. (2019). *Adapting universities and colleges to a changing climate.*

Environmental Association for Universities and Colleges (EAUC), National Union of Students (NUS), University and College Union, Association of Colleges and the College Development Network. (2015). *Sustainability in Education 2015-16 Survey Report.*

Environmental Association for Universities and Colleges (EAUC), National Union of Students (NUS), University and College Union, Association of Colleges and the College Development Network. (2017). *Sustainability in Education 2017-18 Survey Report.*

Environmental Association for Universities and Colleges (EAUC), National Union of Students (NUS), University and College Union, Association of Colleges and the College Development Network. (2019). *Sustainability in Education 2018-19 Survey Report.*

Eriksson, P. & Kovalainen, A. (2008). *Qualitative Methods in Business Research,* Sage, London.

Estevez, P. (2002). University role in policy changes, paper presented at *Clean Production and Pollution Prevention at Universities: Inside Stories International Conference*, University of Sonora in Hermosillo, Sonora.

Eziashi, J. (2017). *Manufacturing Strategy of Firms in Emerging Economy: The Study of Nigerian Manufacturing SMEs.* Doctoral thesis, Northumbria University

Fadare, O.O., & Okoffo, E.D. (2020). Covid-19 face masks: a potential source of microplastic fifibers in the environment. *Science of Total Environment*. 737, 140279.

Fenner, R., Ainger, C. M., Cruickshank, H. J., & Guthrie, P. M. (2005). Embedding sustainable development at Cambridge University Engineering Department. *International Journal of Sustainability in Higher Education*, 6(3), 229–241.

Fernando, S. (2013). *Corporate Social Responsibility practices in developing countries: Empirical evidence from Sri Lanka*, PhD Thesis, University of Waikato

Ferrer-Balas, D., Adachi, J., Banas, S., Davidson, CI., Hoshikoshi, A., Mishra, A., Motodoa, Y., Onga, M., & Ostwald, M. (2008). An international comparative analysis of sustainability transformation across seven universities, *International Journal of Sustainability in Higher Education,* 9 (3) 295-316.

Ferrer-Balas, D., Lozano, R., Huisingh, D., Buckland, H., Ysern, P., & Zilahy, G. (2010). Going beyond the rhetoric: system-wide changes in universities for sustainable societies. *Journal of Cleaner Production 18* (7), 607–610.

Finlay, L. (1998). Reflexivity: an essential component for all research?, *British Journal of Occupational Therapy*, 61 (10), 453-456.

Fombrun, C.J. & Shanley, M. (1990). What Is in a Name? Reputation Building and Corporate Strategy. *Academy of Management Journal,* 33, 233-259.

Freeman, R. (1984). *Strategic Management: A Stakeholder Approach*, Pitman Publishing Inc., Boston.

Friedland, R. & Alford R.R. (1991). Bringing Society Back In: Symbols, Practices, and Institutional Contradictions, in W.W. Powell and P.J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis (pp. 232-267),* University of Chicago Press, Chicago.

Gallhofer, S. & Haslam, J. (1997). The direction of green accounting policy: critical reflections. *Accounting, Auditing and Accountability Journal*, 10(2), 148-174.

Gibbs, G. R. (2007). *Analyzing Qualitative Data*, Sage, London.

Gills, B. K. & Morgan, J. (2020). Global Climate Emergency: After COP24, climate science, urgency, and the threat to humanity. *Globalizations*, 17(6), 885-902.

Gladwin, T. N., Kennelly, J. J., & Krause, T. S. (1995). Shifting paradigms for sustainable development: Implications for management theory and research. *Academy of Management Review, 20*(4), 874-907.

Glover, J.L. & Champion, D. & Daniels, K.J. & Dainty, A.J.D. (2014). An Institutional Theory perspective on sustainable practices across the dairy supply chain, *International Journal of Production Economics,* 152(C), 102-111.

Godemann, J., Bebbington, J., Herzig, C., & Moon, J. (2014), Higher education and sustainable development, *Accounting, Auditing & Accountability Journal, 27* (2) 218 - 233.

Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability... and how would we know? An exploration of narratives of organisations and the planet. *Accounting, Organizations and Society,* 35, 47-62.

Gray, R., Kouhy, R., & Lavers, S. (1995). Constructing a research database of social and environmental reporting by UK companies, *Accounting, Auditing & Accountability Journal*, 8(2), 78-101.

Gray, R., & Milne, M. (2002). Sustainability Reporting: Who's Kidding Whom? *Chartered Accountants Journal of New Zealand*, 81, 66-70.

Green, M.F., & Hayward, F.M. (1997). *Forces for change,* in M.F. Green (ed). *Transforming higher education: Views from leaders around the world (pp.3-25),* Phoenix: Oryx Press

Greenwood, R., & Hinings, C. R. (1996). Understanding radical organizational change: Bringing together the old and the new institutionalism. *The Academy of Management Review, 21*(4), 1022–1054.

Greenwood, R., Hinings, C. R., & Whetten, D. (2014). Rethinking institutions and organizations. *Journal of Management Studies*, 51, 1206–20.

Gudz, N.A. (2004). Implementing the sustainable development policy at the University of British Columbia: An analysis of the implications for organisational learning. *International Journal of Sustainability in Higher Education,* 5(2), 156-168

Gumport, P. (2000). Academic restructuring: Organizational change and institutional imperatives, *Higher Education* 39, 67-91.

Gürtürk, A., & Hahn, R. (2016), An Empirical Assessment of Assurance Statements in Sustainability Reports: Smoke Screens or Enlightening Information? *Journal of Cleaner Production*, 136(Part A), 30–41.

Guthrie, J. & Parker, L. (1989). Corporate Social Reporting: A Rebuttal of Legitimacy Theory, *Accounting and Business Research,* 9, (76) 343-52.

Gutierrez-Huerter O, G. (2016). *The adaptation of social responsibility reporting within a multi-national corporation: a multi-level study.* PhD thesis, University of Nottingham.

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. (2010). Trade-offs in corporate sustainability: You can't have your cake and eat it. *Business Strategy and the Environment,* 19, 217–229.

Hahn, T., Pinkse, J., Preuss, L., & Figge, F. (2015). Tensions in corporate sustainability: towards an integrative framework. *Journal of Business Ethics*, 127(2), 297-316.

Hansen, M.T. (2009). *Collaboration How Leaders Avoid the Traps, Create Unity, and Reap Big Results*; Harvard Business Press: Boston, MA.

Hatzisavvidou, S. (2020). Inventing the environmental state: neoliberal common sense and the limits to transformation, *Environmental Politics,* 29 (1), 96-114.

Hawken, P. (1993). *The Ecology of Commerce: A Declaration of Sustainability*. New York: Harper Collins Publisher.

Haynes, K. (2012). Reflexivity in qualitative research. In C. Cassell, & G. Symon (Eds.), *The Practice of Qualitative Organizational Research: Core Methods and Current Challenges* SAGE.

Henkel, M. (2000). *Academic Identities. Policy Change in Higher Education*, London and Philadelphia: Jessica Kingsley Publishers.

Henríquez-Machado, R., Muñoz-Villamizar, A., Santos, J. (2021). Sustainability through Operational Excellence: An Emerging Country Perspective. *Sustainability, 13,* 3165.

Higgins, C., & Larrinaga, C. (2014). Sustainability reporting: Insights from institutional theory. In J. Unerman, J. Bebbington, & B. O'Dwyer (Eds.), *Sustainability Accounting and Accountability*, 2nd ed. (pp.273-285). London: Routledge.

Hitchens, D., Thankappan, S., Trainor, M., Clausen, J. & De Marchi, B. (2005). Environmental performance, competitiveness and management of small businesses in Europe. *Journal of Economic and Social Geography.* 96, 541-557.

Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the U.S. chemical industry. *Academy of Management Journal,* 42(4), 351-71.

Hoffman, A. J. (2001). Linking organizational and field-level analyses: the diffusion of corporate environmental practice, *Organization & Environment,* 14(2), 133-156.

Holt, A. (2010). Using the telephone for narrative interviewing: a research note. *Qualitative Research*, *10*(1), 113-121.

Hood, C. (1991). A public management for all seasons? *Public Administration, 69, (1)* 3-19.

Hoover, E., & Harder, M. (2015). What lies beneath the surface? The hidden complexities of organizational change for sustainability in higher education. *Journal of Cleaner Production,* 106. 175-188.

Hopwood, A.G., Unerman, J., & Fries, J. (2010). *Accounting for sustainability: practical insights*. London; Washington, DC: Earthscan.

Humber, J. (2002). Beyond Stockholders and Stakeholders: A plea for Corporate Moral Autonomy, *Journal of Business Ethics*, 36, 207-21.

Hunting, SA. & Tilbury D. (2006). *Shifting towards sustainability: Six insights into successful organisational change for sustainability,* Australian Research Institute in Education for Sustainability (ARIES) for the Australian Government Department of the Environment and Heritage, Sydney: ARIES.

Hussey, J. & Hussey, R. (1997). *Business Research: A Practical Guide for Undergraduate and Postgraduate Students.* Macmillan, London.

Hybels, R. C. (1995). On legitimacy, legitimation, and organizations: A critical review and integrative theoretical model. *Academy of Management Journal, Best Conference Proceedings, 38*, 241–245.

Institute for Fiscal Studies. (2020). Will universities need a bailout to survive the Covid-19 crisis?

Irvine, A. (2010). *Realities Toolkit #14: Using Phone Interviews*, ESRC National Centre for Research Methods, University of Manchester.

Islam, M.A. (2009). *Social and Environmental Reporting Practices of Organisations Operating in, or Sourcing Products from, a Developing Country: Evidence from Bangladesh*, PhD Dissertation, RMIT University.

Islam, M., & Deegan, C. (2008). Motivations for an Organisation within a Developing Country to Report Social Responsibility Information: Evidence from Bangladesh, *Accounting, Auditing & Accountability Journal*, *21*(6), 850-874.

Ivory, S.B. (2014). *Legitimising Sustainability: how individuals gain legitimacy for an emerging corporate strategy from internal organisational actors*, PhD Thesis. University of Edinburgh.

Jabbour, C. J. C. (2010). Greening of business schools: a systemic view. International *Journal of Sustainability in Higher Education,* 11(1), 49–60.

Jaber, T., & Oftedal, E. M. (2020). Legitimacy for Sustainability: A Case of A Strategy Change for An Oil and Gas Company, *Sustainability*, 12 (2), 1-19.

Jemielniak D., & Ciesielska M. (2018). Qualitative Research in Organization Studies. In: M. Ciesielska, & D. Jemielniak (eds) *Qualitative Methodologies in Organization Studies (pp. 1-5)*. Palgrave Macmillan, Cham.

Jennings, P. D. & Zandbergen, P. A. (1995). Ecologically sustainable organizations: An Institutional approach. *Academy of Management Review*, 20 (4) 1015-52.

Jo, H., & Na, H. (2012). Does CSR Reduce Firm Risk? Evidence from Controversial Industry Sectors. *Journal of Business Ethics* 110 (4), 441–456.

Johnson, C, Dowd, T.J., & Ridgeway, C.L. (2006). Legitimacy as a Social Process *Annual Review of Sociology,* 32, 53-78.

Jorge, M.L., Madueño, J.H., Cejas, M.Y.C., & Peña, F.J.A. (2015). An approach to the implementation of sustainability practices in Spanish universities, *Journal of Cleaner Production*, *106*, 34-44.

Jones, D.R. (2012). Looking through the "greenwashing glass cage" of the green league table towards the sustainability challenge for UK universities. *Journal of Organizational Change Management*, 25 (4), 630-647.

Jones, D.R. (2017). Opening up the Pandora's box of sustainability league tables of universities: a Kafkaesque perspective, *Studies in Higher Education*, 42(3), 480-503.

Juárez-Luis, G., Sánchez-Medina, P., & Díaz-Pichardo, R. (2018). Institutional Pressures and Green Practices in Small Agricultural Businesses in Mexico: The

Mediating Effect of Farmers' Environmental Concern. *Sustainability*, *10*(12), 4461.

Kaufmann, R.K., & Cleveland, C.J. (1995). Measuring Sustainability: Needed—An Interdisciplinary Approach to an Interdisciplinary Concept. *Ecological Economics*, *15*, 109-112.

Keele University (2021). *Energy and carbon, what we have done* https://www.keele.ac.uk/about/sustainability/ouroperations/energyandcarbon/whatwehavedone/

King, B. G., & Whetten, D. A. (2008). Rethinking the relationship between reputation and legitimacy: A social actor conceptualization. *Corporate Reputation Review*, 11(3), 192–207.

King, N. (2004). Using templates in the thematic analysis of text. In: C. Cassels and G. Symon (Eds.), *Essential Guide to Qualitative Methods in Organizational Research (pp. 256-270)*, Sage, London.

King, N. (2012). Doing Template Analysis. In: G. Symon and C. Cassels, Eds., *Qualitative Organizational Research: Core Methods and Current Challenges (pp.77-101).* Sage.

King, N., Brooks, J., & Tabari, S. (2018). Template analysis in business and management research. In M. Ciesielska, & D. Jemielniak (Eds.), *Qualitative Methods in Organization Studies, 2: Methods and Possibilities (pp. 179-206)*. Palgrave Macmillan Ltd..

Kleindorfer, P.R., Singhal, K., Wassenhove, L.N. (2009). Sustainable Operations Management. *Production Operations Management. 14*, 482–492.

Kotter, J.P. (1996). *Leading Change*. Harvard Business School Press, Boston.

Krizek, K. J., Newport, D., White, J., & Townsend, A. R. (2012). Higher education's sustainability imperative: how to practically respond? *International Journal of Sustainability in Higher Education*, 13(1), 19–33.

Kuh, G. D., & Whitt, E.J. (2000). Culture in American colleges and universities. In M. C. Brown, III (Ed.) *Organizational & Governance in Higher Education (5th ed.) pp.160-169.* Boston, MA, Pearson Custom Publishing.

Kuppig, V. D., Cook, Y. C., Carter, D. A., Larson, N. J., Williams, R. E., & Dvorak, B. I. (2016). Implementation of sustainability improvements at the facility level: motivations and barriers. Journal of Cleaner Production 139, 1529–1538.

Kurucz, E., Colbert, B., & Wheeler, D. (2008). The business case for corporate social responsibility. In A. Crane, A. McWilliams, D. Matten, J. Moon, & D. Siegel (eds), *The Oxford Handbook of Corporate Social Responsibility (pp. 83-112)*. Oxford: Oxford University Press.

la Cour, A., & Kromann, J. (2011). Euphemisms and hypocrisy in corporate philanthropy. *Business Ethics: A European Review,* 20(3), 267–279.

Lamin, A., & Zaheer, S. (2012). Wall Street vs. Main Street: Firm Strategies for Defending Legitimacy and Their Impact on Different Stakeholders. *Organization Science*, 23, 47-66.

Landrum, N.E. (2018). Stages of corporate sustainability: Integrating the strong sustainability worldview, *Organization & Environment, 31* (4), 287-313.

Landrum, N.E., & Ohsowski, B. (2018). Identifying Worldviews on Corporate Sustainability: A Content Analysis of Corporate Sustainability Reports, *Business Strategy and the Environment, 27*(1), 128-151.

Laughlin, R. (1991). Environmental Disturbances and Organisational Transitions and Transformations: Some Alternative Models. *Organization Studies*, 12(2), 209–232.

Leal Filho, W. (2000). Dealing with misconceptions on the concept of sustainability, *International Journal of Sustainability in Higher Education*, 1 (1). 9-19.

Leal Filho, W., Manolas, E., & Pace, P. (2015). The future we want: key issues on sustainable development in higher education after Rio and the UN decade of education for sustainable development. *International Journal of Sustainability in Higher Education*. 16, 112–129.

Leal Filho, W., Wu, Y.C.J., Brandli, L.L., Avila, L.V., Azeiteiro, U.M., Caeiro, S., & Madruga, L.R.G. (2017). Identifying and overcoming obstacles to the implementation of sustainable development at universities, *Journal of Integrative Environmental Sciences*, 14(1), 93-108.

Leal Filho, W., Skouloudis, A., Brandli, L.L., Salvia, A.L., Avila, L.V., & Rayman-Bacchus, L. (2019). Sustainability and procurement practices in higher education institutions: Barriers and drivers, *Journal of Cleaner Production, 231.* 1267-1280.

Leung, T. C. H., & Snell, R. S. (2017). Attraction or distraction? Corporate social responsibility in Macao's gambling industry. *Journal of Business Ethics*, 145(3), 637-658.

Li, D.Y., Zheng, M., Cao, C.C., Chen, X.H., Ren, S.G., & Huang, M. (2017). The impact of legitimacy pressure and corporate profitability on green innovation: Evidence from China top 100. *Journal of Cleaner Production*. 141, 41-49

Lightfoot, L. (2016, November 22). Universities struggle to meet green goals. *The Guardian.* https://www.theguardian.com/education/2016/nov/22/universities-green-goals-environmental-targets-people-planet-league

Lightfoot, L. (2019, July 16). University green rankings at risk despite climate emergency. *The Guardian.* https://www.theguardian.com/education/2019/jul/16/university-green-rankins-risk-despite-climate-emergency

Lincoln, Y . S., & Guba, E. G. (1985). *Naturalistic Inquiry.* Newbury Park, CA: Sage Publications.

Lindblom, C. (1993). The Implications of Organizational Legitimacy for Corporate Social Performance and Disclosure*, Critical Perspectives on Accounting Conference, New York, NY.*

Lipson, M. (2007). Peacekeeping: Organized hypocrisy? *European Journal of International Relations,* 13(1), 5–36.

Lock, H. (2015, September 30). England's universities are losing steam on climate change. *The Guardian.* https://www.theguardian.com/higher-education-network/2015/sep/30/englands-universities-are-losing-steam-on-climate-change.

London School of Economics and Political Science (2021). *LSE becomes the first Carbon Neutral verified university in the UK,* https://www.lse.ac.uk/News/Latest-news-from-LSE/2021/k-November-21/LSE-becomes-the-first-Carbon-Neutral-verified-university-in-the-UK

Lounsbury, M. (1996). Garbage can institutionalism: Symbolic conflict and the inter-field diffusion of contending models. Paper presented at the *Stanford Conference on Organizations*, Pacific Grove, CA.

Lounsbury, M., & Crumley, E. T. (2007). New practice creation: An institutional perspective on innovation. *Organization Studies* 28(7) 993–1012.

Lozano, R. (2006). Incorporation and institutionalization of SD into universities: breaking through barriers to change. *Journal of Cleaner Production 14 (*9–11), 787–796.

Lozano, R. (2009). *Orchestrating Organisational Change for Corporate Sustainability Strategies to overcome resistance to change and to facilitate institutionalization*. PhD Thesis, Cardiff University.

Lozano, R. (2013). Are Companies Planning their Organisational Changes for Corporate Sustainability? An Analysis of Three Case Studies on Resistance to Change and their Strategies to Overcome it. *Corporate Social Responsibility and Environmental Management,* 20, 275-295.

Lozano, R., Francisco J., Lozano, F.J., Mulder, K., Huisingh, D., & Waas, T. (2013) Advancing Higher Education for Sustainable Development: international insights and critical reflections, *Journal of Cleaner Production*, 48, 3–9.

Macgregor, C.J. (2015). James Cook University's holistic response to the sustainable development challenge. In: W. Leal (Ed.), *Transformative Approaches to Sustainable Development at Universities: Working across Disciplines (pp. 25-40)*. Peter Lang Scientific Publishers.

MacIntyre, A. (2009). The Very Idea of a University: Aristotle, Newman, and Us, *British Journal of Educational Studies,* 57(4), 347-362.

March, J.G. & Olsen, J.P. (1989). *Rediscovering institutions*. New York: Free Press.

Matthews, B., & Ross, L. (2010). *Research Methods: A Practical Guide for the Social Sciences*, Pearson Longman, Essex

Maughan, R., & O'Dwyer, B. (2010). *Exploring Sustainability Practices and Reporting at Musgrave Group: A Case Study of an Irish Private Company*. Sustainability Management in a Diverse World: Corporate Responsiblity Research Conference, Euromed Management, 15-17 September, Marseille, France.

McChesney, R. W. (1999). Introduction. In N. Chomsky, *Profit over people: Neoliberalism and Global Order.* New York, NY: Seven Stories Press.

McWilliams, A., & Siegel, D. (2001). Corporate Social Responsibility: A Theory of the Firm Perspective. *Academy of Management Review*, 26, 117-127.

Meyer, J.W. & Rowan, B. (1977). Institutionalized organizations: formal structure as myth and ceremony, *American Journal of Sociology*, 83 (2) 340-63.

Meyer, J. W., & Rowan, B. (1991). Institutionalized organizations: Formal structure as myth and ceremony. In W. W. Powell & P. J. DiMaggio (Eds.), The *new* *institutionalism* in organizational *analysis (pp. 41-62)*. Chicago: University of Chicago Press.

Meyer, R.E., & Höllerer, M.A. (2014). Does Institutional Theory Need Redirecting? *Journal of Management Studies*, 51(7), 1221-1233.

Milne, M., Tregidga, H., & Walton, S. (2009). Words not actions! The ideological role of sustainable development reporting, *Accounting, Auditing and Accountability Journal*, 22, 1211-1257.

Milne, M., & Gray, R. (2013). W(h)ither Ecology? The Triple Bottom Line, The Global Reporting Initiative, and Corporate Sustainability Reporting, *Journal of Business Ethics*, 118, 13-29

Milutinovic´, S., & Nikolic´, V. (2014). Rethinking higher education for sustainable development in Serbia: an assessment of Copernicus charter principles in current higher education practices. *Journal of Cleaner Production 62* (1), 107-113.

Mitchell, J. C. (1983). Case and Situation Analysis, *Sociological Review*, 31, 186 –211.

Mitchell, R.K., Agle B.R., & Wood, D.J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts, *The Academy of Management Review*, 22 (4) 853-886.

Molthan-Hill, P. (2014). The moral muteness of managers: an Anglo-American phenomenon? German and British managers and their moral reasoning about environmental sustainability in business. *International Journal of Cross Cultural Management, 14* (3), 289-305.

Molthan-Hill, P. (2015). Making the business case? Intercultural differences in framing economic rationality related to environmental issues. *Critical Perspectives on International Business*, *11* (1), 72-91.

Montiel, I., & Delgado-Ceballos, J. (2014). Defining and measuring corporate sustainability: Are we there yet? *Organization & Environment*, *27*(2), 113-139.

Nawaz, W., Koç, M. (2019). Exploring Organizational Sustainability: Themes, Functional Areas, and Best Practices. *Sustainability*, *11*, 4307

Newman, J.C., & Breeden, K.M. (1992). Managing in the environmental era: Lessons from environmental leader. *Columbia Journal of World Business.* 27, 210-221.

Newson, M. & Deegan, C. (2002). Global Expectations and their Association with Corporate Social Disclosure Practices in Australia, Singapore and South Korea, *The International Journal of Accounting, 37,* 183-213.

Nidumolu, R., Prahalad, C. K., & Rangaswami, M.R. (2009). Why Sustainability Is Now the Key Driver of Innovation. *Harvard Business Review,* 57-64.

Northumbria University. (2021). *DBA programme,* accessed on the 11st of August 2021. https://www.northumbria.ac.uk/study-at-northumbria/courses/doctor-of-business-administration-dtfbad7/

Nowell, L., Norris, J., White, D. & Moules, N. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*, 1-13.

O'Dochartaigh, A. (2014). *The Possible Role of Business Organisations in Sustainable Development: Approaches, Boundaries, Future Directions,* PhD Thesis. University of St. Andrews.

O'Dwyer, B. (2002). Managerial perceptions of corporate social disclosure: An Irish story. *Accounting, Auditing & Accountability Journal*, *15*(3), 406-436.

O'Dwyer, B. (2003). Conceptions of Corporate Social Responsibility: The Nature of Managerial Capture, *Accounting, Auditing and Accountability Journal* 16(4), 523–557.

O'Dwyer, B. (2004). Qualitative Data Analysis: Illuminating a Process for Transforming a 'Messy' but 'Attractive' 'Nuisance'. In C. Humpreys, & B. Lee (Eds.) *The Real Life Guide to Accounting Research: A Behind-the-Scenes View of Using Qualitative Research Methods.* Amsterdam; Boston, Elsevier.

O'Dwyer, B., Owen, D., & Unerman, J. (2011). Seeking legitimacy for new assurance forms: The case of assurance on social and environmental reporting. *Accounting Organizations and Society,* 36, 31–52.

Oliver, C. (1991). Strategic Responses to Institutional Processes, *The Academy of Management Review,* 16, (1), 145-179.

Oliver, C. (1997). Sustainable Competitive Advantage: Combining Institutional and Resource-Based Views. *Strategic Management Journal*, 18, 679-713.

O'Neill, K., & Sinden, C. (2021). Universities, sustainability, and neoliberalism: contradictions of the climate emergency declarations. *Politics and Governance, 9* (2), 29-40.

Pacheco-Blanco, B., & Bastante-Ceca, M.J. (2016). Green Public Procurement as an initiative for Sustainable Consumption. An exploratory study of Spanish public universities *Journal of Cleaner Production* 133, 648-656.

Panwar, R., Nybakk, E., Hansen, E., & Pinkse J. (2017). Does the Business Case Matter? The Effect of a Perceived Business Case on Small Firms' Social Engagement. *Journal of Business Ethics*, 144(3), 597-608.

Patten, D.M. (2020), Seeking legitimacy, *Sustainability Accounting, Management and Policy Journal*, 11(6) 1009-1021.

Pedersen, E.R.G., Rosati, F., Lauesen, L.M., & Farsang, A. (2017), What is in a Business Case? Business Cases as a Tool-in-Use for Promoting Water Management Practices, *Journal of Cleaner Production,* 162, 1048-1060.

People and Planet. (2018). Press Release, accessed on the 31st of December, 2018, https://peopleandplanet.org/university-league/press

People & Planet. (2019a). *University League,* accessed on the 31st of December, 2020, https://peopleandplanet.org/university-league

People & Planet, (2019b), Press Release, accessed on the 31st of December, 2020, https://peopleandplanet.org/university-league/press

People & Planet (2019c). *2019 university league methodology and assessment*, accessed on the 31st of December, 2020, https://peopleandplanet.org/university-league-methodology

People & Planet (2019d). *2019 university league methodology and assessment*, accessed on the 31st of December, 2020, https://peopleandplanet.org/resources-training/people-planet-university-league/methodology/5-managing-carbon

People and Planet (2020), About us, accessed on the 31st of December, 2020, https://peopleandplanet.org/about/about-us

People and Planet (2021), League table methodology, accessed on the 31st of August, 2021, https://peopleandplanet.org

Phillips, R. (2003). Stakeholder Legitimacy, *Business Ethics Quarterly, 13, 25-41.*

Pollock, T. G., & Rindova, V. P. (2003). Media legitimation effects in the market for initial public offerings. *Academy of Management Journal*, 46, 631-642.

Pojasek, R.B. (2012). Understanding sustainability: An organizational perspective. *Environmental Quality Management*, Vol 21 (3), p. 93-100

Porter, M.E. & Kramer, M.R. (2006) Strategy & Society: The Link between Competitive Advantage and Corporate Social Responsibility. *Harvard Business Review*, 84, 78-85.

Porter, M. E., & Kramer, M. R. (2011). Creating shared value: How to reinvent capitalism and unleash a wave of innovation and growth. *Harvard Business Review* (January/February): 62-77.

Posner, S.M. & Stuart, R. (2013). Understanding and advancing campus sustainability using a systems framework. *International Journal of Sustainability in Higher Education* 14 (3), 264-277.

Prasad, P., & Elmes, M. (2005). In the Name of the Practical: Unearthing the Hegemony of Pragmatics in the Discourse of Environmental Management, *Journal of Management Studies* 42(4) 845-867.

Qian, W., Burritt, R., & Monroe, G. (2011) Environmental Management Accounting in Local Government: A Case of Waste Management, *Accounting Auditing & Accountability Journa*l, 24 (1), 93-128.

Quan, R. (2007). *Strategic market entry choices : experience of Chinese SME managers*. Doctoral thesis, Northumbria University.

Rao, H., Morrill, C., & Zald, M. (2000). Power plays: How social movements and collective action create new organizational forms, *Research in Organizational Behavior*, 22, 237–281.

Reyes, G. Jr., & Scholz, M. (2019). The limits of the business case for sustainability: Don’t count on ‘Creating Shared Value’ to extinguish corporate destruction. *Journal of Cleaner Production. 221* (1) 785-794.

Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers (2nd ed.)*. Oxford: Blackwell Publishers Ltd.

Rodrigue, M., Magnan, M., & Cho, C. H. (2013). Is environmental governance substantive or symbolic? An empirical investigation. *Journal of Business Ethics, 114(1),* 107–129.

Rogers, E.M. (1995). *Diffusion of Innovations*, fourth ed. Free Press, New York.

Rothblatt, S. (1995). An historical perspective on the university's role in social development. In D. D. Dill & B. Sporn (Eds). *Emerging Patterns of Social Demand and University Reform: Through a Glass Darkly (pp. 20-53)*. Oxford, UK: Pergamon.

Ruef, M. & Scott, W.R. (1998). A Multidimensional Model of Organizational Legitimacy: Hospital Survival in Changing Institutional Environments. *Administrative Science Quarterly*, 43, 877-904.

Rume, T., & Islam, S. M. D. U. (2020). Environmental effects of COVID-19 pandemic and potential strategies of sustainability. *Heliyon*, 6(9).

Salix Finance Ltd. (2018). *England Energy Efficiency Loans Application Notes.*

Sammalisto, K., & Arvidsson, K. (2005). Environmental management in Swedish higher education: Directives, driving forces, hindrances, environmental aspects and environmental co-ordinators in Swedish universities, *International Journal of Sustainability in Higher Education*, 6 (1) 18-35.

Saravanamuthu, K. & Tinker, T. (2002). The University in the New Corporate World. *Critical Perspectives on Accounting,* 13 (5-6), 545-554.

Savage, A., Gilbert, E., Rowlands, J., & Cataldo, A. J. (2002). Corporate environmental disclosure in annual reports: A legitimacy perspective. *South Africa Journal of Accounting Research, 15*(2), 1–30.

Schaltegger, S., Lüdeke-Freund, F., & Hansen, E. G. (2012). Business Cases for Sustainability: The Role of Business Model Innovation for Corporate Sustainability. *International Journal of Innovation and Sustainable Development,* 6(2) 95–119.

Schaltegger S., & Hörisch, J. (2017). In Search of the Dominant Rationale in Sustainability Management: Legitimacy- or Profit-Seeking? *Journal of Business Ethics, 145*(2), 259-276.

Schaltegger, S., & Burritt, R. (2018). Business Cases and Corporate Engagement with Sustainability: Differentiating Ethical Motivations, *Journal of Business Ethics,* 147(2), 241-259.

Scott, W. R. (1994). Conceptualizing organizational fields: linking organizations and societal systems. In Derlien, H.-E., Gerhardt, U. and Scharpf, F. W. (Eds), *Systems Rationality and Partial Interests (pp. 203–221).* Baden-Baden: Nomos Verlagsgesselschaft.

Scott, W. R. (1995). *Institutions and Organizations*. Thousand Oaks, CA: Sage.

Scott, W. R. (2001). *Institutions and organizations*, Sage Publications, Inc.

Scott, W. R. (2014). *Institutions and Organizations: Ideas and Interests*, 4th ed. Sage Publications, Los Angeles, CA.

Selznick, P. (1949). *TVA and the grass roots a study in the sociology of formal organization.* Berkeley: University of California Press.

Selznick, P. (1957). *Leadership in Administration: A Sociological Interpretation.* Evanston, Ill.: Row, Peterson.

Sempik, J., Becker, S., & Bryman, A. (2007). The Quality of Research Evidence in Social Policy: Consensus and Dissension among Researchers, *Evidence and Policy*, 3, 407–23.

Sharp, L. (2002). Green campuses: the road from little victories to systemic transformation, *International Journal of Sustainability in Higher Education*, 3 (2), 128-145.

Shiel, C., & Williams, A. (2015). Working together, driven apart: Reflecting on a joint endeavour to address sustainable development within a university. in Leal Filho et al. (eds.), *Integrative Approaches to Sustainable Development at University Level (pp. 425-447),* World Sustainability Series. Springer International Publishing Switzerland.

Shriberg, M.P. (2002). *Sustainability in US higher education: organizational factors influencing campus environmental performance and leadership*, PhD thesis, The University of Michigan

Silverman, D. (2006) *Interpreting Qualitative Data*, 3rd ed., Sage, London.

Simons, T. (2002). Behavioral integrity: The perceived alignment between managers' words and deeds as a research focus. Organization Science, 13(1), 18–35.

Singh, N., Tang, Y., & Ogunseitan, O.A. (2020). Environmentally sustainable management of used personal protective equipment. *Environmental Science and Technology,* 54(14), 8500–8502.

Slawinski, N., Busch, T., Pinkse, J., & Banerjee, S. B. (2017). The role of short-termism and uncertainty avoidance in organizational inaction on climate change: A multi-level framework. *Business and Society, 56*, 253–282.

Sonpar, K., Pazzaglia, F., & Kornijenko, J. (2009). The Paradox and constraints of legitimacy. *Journal of Business Ethics*, 95(1), 1–21.

Soobaroyen, T. & Ntim, C. G. (2013). Social and environmental accounting as symbolic and substantive means of legitimation: The case of HIV/AIDS reporting in South Africa. *Accounting Forum*, 37, 92-109.

Sourani, A., & Sohail, M. (2011). Barriers to addressing sustainable construction in public procurement strategies. *Proceedings of the Institution of Civil Engineers: Engineering Sustainability, 164* (4), 229 - 237.

Spence, C., & Gray, R. (2007). *Social and environmental reporting and the business case,* London: ACCA

Stacey, R.D. (1993). *Strategic Management and Organisational Dynamics*. Pitman Publishing, London.

Starik, M., & Kanashiro, P. (2013). Toward a theory of sustainability management: Uncovering and integrating the nearly obvious. *Organization & Environment, 26*(1), 7-30.

Stephens, N. (2007). Collecting Data from Elites and Ultra Elites: Telephone and Face-to-Face Interviews with Macroeconomists. *Qualitative Research*, 7(2), 203-216.

Sterling, S., & Scott, W. (2008). Editorial. *Environmental Education Research* 14 (4), 383–385.

Stubbs, W., Higgins, C., & Milne, M. (2013). Why do companies not produce sustainability reports? *Business Strategy and the Environment*, *22*(7), 456 - 470.

Students Organising for Sustainability UK (SOS-UK). (2019a). The team, accessed on the 31st of December, 2020, https://sustainability.nus.org.uk/about/the-team

Students Organising for Sustainability UK (SOS-UK) (2019b). Our programmes and campaigns, accessed on the 31st of December, 2020 https://sustainability.nus.org.uk/our-works

Students Organising for Sustainability UK (SOS-UK) (2019c). Divest-invest, accessed on the 31st of December, 2020 https://sustainability.nus.org.uk/divest-invest/the-campaign

Students Organising for Sustainability UK (SOS-UK) (2021). Learning Academy, accessed on the 11st August, 2021, https://www.sos-uk.org/learning-events

Sturges, J. E., & Hanrahan, K. J. (2004). Comparing telephone and face-to-face qualitative interviewing: A research note. *Qualitative Research, 4*(1), 107–118.

Suchman, M. C. (1988). *Constructing an institutional ecology*: *notes on the structural dynamics of organizational communities* Paper presented at the annual meeting of the American Sociological Association. Atlanta.

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3) 571–610.

Tan, H., Chen, S., Shi, Q., & Wang, L. (2014). Development of green campus in China, *Journal of Cleaner Production*, 64, 646–653.

The Higher Education Funding Council England. (2010). *Carbon management strategies and plans A guide to good practice*.

The Intergovernmental Panel on Climate Change (2013). *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.* Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

The National Union of Students. (2019a). Accessed on the 31st of December, 2019 https://www.nusconnect.org.uk/

The National Union of Students. (2019b). *Sustainability Skills Survey 18-19*.

The UK Government. (2019). *The Climate Change Act 2008 (2050 Target Amendment) Order 2019 No. 1056*.

Thomson, I. (2014). Mapping the terrain of sustainability and accounting for sustainability, in J. Unerman, J. Bebbington, & B. O'Dwyer (ed.) *Sustainability Accounting and Accountability (*pp. 15-29). Routledge, New York.

Times Higher Education (2021a), The University Impact Rankings 2021. accessed on the 11th of August, 2021 https://www.timeshighereducation.com/rankings/impact/2021/overall#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined

Times Higher Education (2021b), Impact Rankings 2021: methodology, accessed on the 11th of August, 2021. https://www.timeshighereducation.com/world-university-rankings/impact-rankings-2021-methodology

Tobin, G. A., & Begley, C. M. (2004). Methodological rigour within a qualitative framework. *Journal of Advanced Nursing*, 48, 388–396.

Tracy, S. J . (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative inquiry,* 16(10) 837-851.

Tregidga, H., & Milne, M. (2006). From sustainable management to sustainable development: A longitudinal analysis of a leading New Zealand environmental reporter, *Business Strategy and the Environment* 15(4) 219 - 241.

Ullah, M., Khan, M.W.A., Kuang, L.C., Hussain, A., Rana, F., Khan, A., & Sajid, M.R. (2020). A Structural Model for the Antecedents of Sustainable Project Management in Pakistan. *Sustainability*, 12, 8013.

Unerman, J. (2008). Strategic reputation risk management and corporate social responsibility reporting, *Accounting, Auditing & Accountability Journal*, *21*(3), 362-364.

Unerman, J., & Bennett, M. (2004). Increased stakeholder dialogue and the internet: towards greater corporate accountability or reinforcing capitalist hegemony? *Accounting organizations and society*, 29(7), 685 - 707.

University of Brighton. (2017). *Carbon Management Plan.*

University of Bristol. (2018). *Value for money report.*

University of Gloucestershire. (2018). *Carbon management plan 2018-2022*

University of Kent. (2018). The Estates Department's Carbon Strategy 2017/18-2020/21.

University of Worcester. (2016). *Updated Carbon Management Strategy.*

University of Worcester. (2018a). *Log of Interested Parties.*

University of Worcester, (2018b). *Risks and Opportunities EMS PESTLE Analysis.*

Usmani, M., Davison, J. & Napier, C.J. (2020). The production of stand-alone sustainability reports: visual impression management, legitimacy and "functional stupidity", *Accounting Forum*, 44(4) 315-343.

Van de Ven, B. (2005). Human Rights a Normative Basis for Stakeholder Legitimacy*, Corporate Governance, 5, 48-59.*

Velazquez, L., Munguia, N., & Sanchez, M. (2005). Deterring sustainability in higher education institutions: An appraisal of the factors which influence sustainability in higher education institutions. *International Journal of Sustainability in Higher Education, 6*(4), 383–391.

Velazquez, L., Munguia, N., Platt, A., Taddei, T. (2006). Sustainable University: What can be the matter? *Journal of Cleaner Production. 14*, 810–819.

Verhulsta, E., & Lambrechtsbc, W. (2015). Fostering the incorporation of sustainable development in higher education. Lessons learned from a change management perspective. *Journal of Cleaner Production,*106, 189-204.

Vermeulen, P., van den Bosch, F., & Volberda, H. (2007). Complex incremental product innovation in established service firms: A micro institutional perspective. *Organization Studies,* 28, 1523-1546.

Waas, T., Verbruggen, A., & Wright, T. (2010). University research for sustainable development: definition and characteristics explored. *Journal of Cleaner Production* 18, 629–636.

Waas, T., Hugé, J., Ceulemans, K., Lambrechts, W., Vandenabeele, J., Lozano, R., & Wright, T. (2012). *Sustainable Higher Education – Understanding and Moving Forward*. Flemish Government – Environment, Nature and Energy Department, Brussels.

Waheed, M. H. (2017a). *Living Labs Brief What are they? And why are they crucial for post-16 education?* Environmental Association for Universities & Colleges (EAUC).

Waheed, M. H. (2017b). A Revolution for Post-16 Education – Part 1: A Case for the Living Lab. Environmental Association for Universities & Colleges (EAUC).

Waheed, M. H. (2017c). *A Revolution for Post-16 Education – Part 2: How do Living Labs Work?* Environmental Association for Universities & Colleges (EAUC).

Wals, A. (2008). From Cosmetic Reform to Meaningful Integration: Implementing Education for Sustainable Development in Higher Education Institutes – *the State of Affairs in Six European Countries.* DHO, Amsterdam.

Warren, C. (2001). Qualitative Interviewing, in J. F. Gubrium, & J. A. Holstein. (Eds.) *Handbook of Interview Research: Context and Method (pp. 83 – 101),* Thousand Oaks, London, New Delhi: Sage

Washington-Ottombre, C., Washington, G.L., & Newman, J. (2018). Campus sustainability in the US: Environmental management and social change since 1970, *Journal of Cleaner Production*, *196,* 564-575.

Wijethilake, C., Munir, R., & Appuhami, R. (2017). Strategic responses to institutional pressures for sustainability: the role of management control systems. *Accounting, Auditing & Accountability Journal*, *30* (8), 1677-1710.

World Commission on Environment and Development of the United Nations. (1987). *our common future, the Brundtland report,* Oxford: Oxford University Press.

Wu, L., Subramanian, N., Abdulrahman, M.D., Liu, C., & Pawar, K.S. (2016). Short-term versus long-term benefits: balanced sustainability framework and research propositions. *Sustainable Production and Consumption, 11*. 18-30.

You, S., Sonne, C. & Ok, Y.S. (2020). COVID-19's unsustainable waste management, *Science*, 368 (6498) 1438.

Zambrano-Monserrate, M.A., Ruanob, M.A., & Sanchez-Alcalde, L. (2020). Indirect effects of COVID-19 on the environment. *Science of Total Environment.* 728, 138813.

Zamzam, I. (2020, January 13). Universities divesting from fossil fuels have made history, but the fight isn't over, The Guardian, accessed on the 11st of August, 2021. https://www.theguardian.com/education/2020/jan/13/universities-divesting-from-fossil-fuels-have-made-history-but-the-fight-isnt-over

Zhao, N. (2012). *An investigation of Social and Environmental Reporting Practices - In a Chinese Context*, PhD Thesis. University of London Royal Holloway.

Zhao, N., & Patten, D. (2016). An exploratory analysis of managerial perceptions of social and environmental reporting in China: Evidence from state-owned enterprises in Beijing. *Sustainability Accounting, Management and Policy Journal*, *7*(1), 80-98.

Zsolnai, L. (2006). Extended Stakeholder Theory, *Society and Business Review,* 1 (1), 37-44.

Zuo, W., Schwartz, M. S., & Wu, Y. J. (2017). Institutional Forces Affecting Corporate Social Responsibility Behavior of the Chinese Food Industry. *Business & Society*, 5, 705-737.